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THE RELATIONSHIPS OF ATTITUDES TOWARD POPULATION EDUCATION, QUALITY-OF-LIFE BELIEFS, AND PROFESSIONAL COMMITMENTS OF THAI HOME ECONOMICS TEACHER EDUCATORS

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ABSTRACT

The infusion of population education into existing home economics curricula at all education levels is one way to help solve population problems that affect individuals' quality of life in Thailand. Needless to say, the success or failure of population education activities depends largely on the home economics teacher educators of the Department of Teacher Training in the Ministry of Education, since it is their role and responsibility to train nine-tenths of the future secondary and elementary teachers.

Therefore, this research study was designed primarily to investigate the relationships that exist among quality-of-life beliefs, attitudes toward population education, and professional commitments of Thai home economics teacher educators. The second purpose was to determine if selected demographic characteristics may result in any statistically significant differences in those beliefs, attitudes, and commitments.

The research design was a survey-type questionnaire administered in person by a task force in Thailand to 72 teacher educators in the seven teacher colleges within the Bangkok-Dhonburi metropolis. The returned rate was 94.44 percent, with 88.89 percent (n = 64) that could be analyzed. The instruments were composed of three measures and Information Data (ID): the researcher's Attitudes Toward Population Education Scale (ATT), Wallace's Quality-of-Life Beliefs Scale (QLB), and the researcher's Professional Commitments Scale (PC) adapted from Loftis's Professional Rating Scale. The Pearson Product-Moment Correlation Coefficient (PPMCR) analyzed the relationships of the three

major variables, while Analysis of Variance (ANOVA) and Tukey's Wholly Significant Differences (WSD) analyzed the effects of demographic data.

The findings of the study were: (1) a positively significant correlation ($p < .01$) existed between quality-of-life beliefs, attitudes toward population education, and professional commitments; (2) a negatively significant relationship ($p < .05$) was found in the scores of all measures and experiences of population-education and family-planning seminars/workshops; and (3) no statistically significant differences on any measure existed in relation to family size, years of teaching, age, and except specialized areas, in the QLB measure. That is, the Food and Nutrition group had the highest mean score and the Child Development and Family Relations group had the lowest mean score. Both of these mean scores were statistically significant at the .05 level.

The results suggest to the policy makers and organizers that (1) future educational programs should be designed so as to make use of the influential relationships of such beliefs, attitudes, and commitments; (2) a purposeful, long-range, in-depth, in-service training project specifically for the teacher educators should be developed; (3) concurrently, action research should be conducted to determine the efficient and effective strategies, contents, lesson plans, materials, teaching aids, evaluation measurements, etc. that would infuse population education into various existing home economics curricula for the teacher educators and for secondary and elementary teachers; and (4) finally, additional research for the purposes of comparison and further understanding of similar relationships should be conducted with professionals in similar roles both within Thailand and in other countries.

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CHAPTER 1

INTRODUCTION

Recently, home economics has been regarded as one of the most effective subject areas of the education curriculum for the infusion of population concepts. However, the population education aspect of home economics will be no more effective than the program into which it is integrated. The effect of the integration depends on the strength and the effectiveness of the program already in existence, and especially on the competence of the teachers (Sunhachawee, 1973; Kuanpoonpol, 1977).

In Thailand, a number of home economics teacher educators in 36 teachers colleges in the Teacher Training Department, Ministry of Education, have attended population-education/family-planning workshops and/or seminars. These teacher educators are now responsible for infusing population education concepts into existing home economics curricula for the students who are training to be elementary and secondary school teachers. Thereby, population education is being integrated into the home economics curriculum at the elementary and secondary levels (Ministry of Education, 1976).

This process has raised some questions regarding the teacher educators' competence. What are the teachers' quality-of-life beliefs as base line concepts of population education? Do they have favorable attitudes toward population education? Are they committed to population education? Such questions need to be investigated if home economics personnel are going to fulfill the goal of integrating population education.

The purpose of this study was to examine quality-of-life beliefs, attitudes toward population education, and professional commitments to population education of Thai home economics teacher educators. This baseline data will be useful in determining the focus and strategies for population education in-service training for home economics teacher educators in the Department of Teaching Training, Ministry of Education, Thailand.

Background of the Study

The world population growth pattern during this century is unprecedented in human history. World population has grown from about 1.5 billion in 1900 to about 4 billion in 1975, and will probably reach 6 billion by the year 2000 (Matras, 1977, p. 14). Trends in population, food supply, and agricultural development in Asia and the Far East have been a major concern to the countries within those regions and throughout the world (FAO, 1975; UNESCO, 1975b; UN, 1974).

Thailand, as well as other developing nations, has likewise experienced rapid population growth. According to the 1970 census, with an approximated population of 36 million and 2.8 percent population growth rate, Thailand ranked sixteenth in population size and third in population growth rate among Asian countries (Population Council, 1972, p. 2). In 1976, the total population was approximately 43 million, with a 2.5 to 2.6 percent growth rate (U.S. Department of Commerce, 1978, p. 5).

The rapid growth rate has been a factor contributing to serious national problems: food production, health and health service,

education, urbanization environment, social and economic development, individual and family decision-making, and the standard of living (NEDB, 1972). The Royal Thai government, recognizing these phenomena, has attempted to reduce the population growth rate in both the Third and Fourth National Plans (1972-76 and 1977-81), with the goal of 2.5 percent in 1976 and 2.1 percent in 1981 (NESDB, 1977). Thus, a population policy was adopted in Thailand in 1970, as follows:

> The Thai government has the policy to support voluntary family planning in order to resolve various problems concerned with the very high rate of population growth, which constitutes an important obstacle to the economic and social development of the nation. (Population Council, 1972, p. 5)

Policies to reduce the population growth rate are to be implemented on a voluntary basis; therefore, achievement of the goal depends largely on the effectiveness of officials and personnel of the participating governmental and voluntary agencies.

The Thai Ministry of Education is responsible for population education both in and out of school systems (Thailand Committee on Population, 1976), as a result of accepting the World Population Plan of Action that urged population education.

> Educational institutions in all countries should be encouraged to expand their curricula to include a study of population dynamics and policies, including, where appropriate, family life, responsible parenthood and the relation of population dynamics to socioeconomic development and to international relations. (UNESCO, 1978, p. 12)

In 1969, Sikes, in his book Teacher's Reference on Population Problems, recommended how home economics teachers could use population education (Henry, 1974, p. 25). A 1977 UNESCO study reported that home economics is one of the most suitable and effective subject areas for

integrating population education concepts. Kuanpoonpol (1977) stated that home economics and population education can be positive forces for social and economic development (p. 5). She observed that family-centered, discovery-oriented, skills-development methodologies have proven effective for home economics instruction in schools and should be developed further (p. 8).

However, in Thailand, as well as other Asian countries, there is a lack of qualified personnel to teach population education concepts even though population education has been introduced into the existing in-school and out-of-school systems (UNESCO, 1978, p. 94). The 36 teachers colleges, located in both rural and urban areas, are acknowledged as having a major responsibility for the preparation of teachers to serve a large portion of the population in Thailand (Sumawong, 1973). These teachers will need competence in population education.

Population Education as Problem-Solving

Population education is a relatively new educational field which has emerged only during the last ten years. It is an educational program which aims to develop in the learners rational and responsible beliefs, attitudes, behaviors, and commitments toward solutions to those population situations facing families, communities, nations, and the world (UNESCO, 1971, p. 13). It encourages learners to investigate and explore population processes, characteristics, and changes as related to their causes and consequences (Viederman, 1972, p. 17). Such a learning process can extend the learners' understanding of population situations

and develop skills in analyzing the population issues in a way which is meaningful to people and society.

Population issues come within the concern of home economics, since the present trend of population growth has resulted in an array of problems associated with the quality of family and individual life. The concerns for home and family have been expressed repeatedly in the definitions of home economics, especially since the Lake Placid Conference on Home Economics in 1902 (AHEA, 1908), a revision of philosophy and objectives by the American Home Economics Association (AHEA, 1959), and Creekmore's (1968) discussion of a new direction in home economics. Also, the definition by Burleson (1969) refers to home economics as "the study of human and material forces affecting homes and families and the utilization of the knowledge for the benefit of mankind" (p. 12).

A more recent statement describing the mission of home economics was proposed by Brown and Paolucci (1979):

> The mission of home economics is to enable families, both as individual units and generally as a social institution, to build and maintain systems of action which lead (1) to maturing in individual self-formation and (2) to enlightened, cooperative participation in the critique and formulation of social goals and means for accomplishing them. (p. 23)

They suggested that home economists need to engage in both direct and indirect services to the solutions of family problems in order to fulfill this commitment.

Ignatius (1972, p. 22) stated that home economists have a role to combat population hazards because they study the problems facing families that concern the quality of family life. The American Home

Economics Association (1972) supported population education at all levels, from kindergarten through grade twelve, and at technical schools, colleges, and adult education programs.

According to Thailand's Fourth National Economic and Social Development Plan (1977-81), population education has been integrated explicitly into home economics curricula at all levels. A part of the plan fully clarifies "Population Education" as follows:

> 1. Population education shall be taught both in the formal school system and out-of-school system according to the following procedures:
>
> A. The teaching of population education must be carried out correctly. The facts must be presented frankly in order not to cause misunderstanding and mistakes later; teachers and personnel must gain a true knowledge in this field. In doing so, it must begin with the teaching and training of this subject to teacher-educators in teacher training institutions in order to propagate the concept of population effectively to in-service teachers, teacher-training students, developers, local leaders, commune headmen, village headmen, local medics, etc.
>
> B. Developing curricula and textbooks in the field in accordance with the trainee's age and knowledge level. Participants must be closely involved both in finding ways to integrate population education and family planning in teaching all subjects, including improving the curricula and textbooks suitable to the changing conditions of the country.
>
> C. The concept of population education must be extensively propagated by sending newsletters and publications to schools, offices, and through mass media such as radio, television, and newspapers; establishing population education libraries; and sending out population officers to teach and train the youth and people.
>
> D. Research on population education must be promoted extensively. (Ministry of Education, 1976, p. 7)

Education is one means to develop new behaviors. Thailand is attempting to use education as an agent of change, as a catalyst for improving the quality of life, and to aid the process of development. It is hoped that population education will act as a catalyst to foster alternative behaviors, attitudes, and beliefs with respect to a specific set of issues related to population.

Conceptual Framework

This study is concerned with attitudes toward population education, quality-of-life beliefs, and professional commitments regarding population education of the home economics teacher educators in the Teacher Training Department, Thai Ministry of Education. Conceptual definitions of attitude, quality of life, and professional commitment are discussed below to show their relevance to population education personnel.

Attitude

In 1935, Allport stated that attitude as a concept is derived from the intellectual and research traditions: experimental psychology of consciousness, psychoanalysis, and sociology (Liska, 1975, p. 1). Later, Triandis (1971) included many of the central ideas used by attitude theorists in his definition: "An attitude is an idea charged with emotion which predisposes a class of actions to a particular class of social situations" (p. 2). His definition suggested that attitudes have three components: a cognitive component, an affective component, and a behavioral component. Rokeach (1968) used a similar definition,

describing attitude as having the same three components, with "a relatively enduring organization of interrelated beliefs that describe, evaluate, and advocate action with respect to an object or situation." (p. 132).

Ball (cited in Anderson et al., 1975) concluded, by combining the common features from many definitions, that an attitude is "an implicit cue- and drive-producing response to socially salient characteristics and possesses evaluative properties" (p. 32). He further explained that an attitude is within the individual, and cannot be seen, felt, touched, or observed. An attitude held by a person will tend to cause the person to notice and do things selectively, and that behavior which permits a person's attitudes to be inferred can be elicited by providing appropriate stimuli. Such a definition also implies that school and school-related activities are appropriate areas for assessment because they are socially salient in the life of the person being instructed. Finally, an attitude is a personal evaluation since it contains either a positive element or a negative element toward an object or situation.

Therefore, the personality of a teacher is a significant variable in the classroom (UNESCO, 1978, p. 67), and teacher attitudes are an important part of the personality and resultant teaching style. Concern with personal qualities of teachers has always been of prime importance to the profession. Attitudes influence teacher behaviors, not only in the classroom and toward students, but also toward tasks related to the profession (Bengel, 1968, p. 4).

Quality of Life

The increasing rate of population growth is adversely affecting the quality of life for all individuals of the world. Berelson (1969) expressed that concern for quality of life covers not only the functions of material well-being (e.g., clothes, food, housing), but also the precious intangibles that make life worth living. In addition, Stockale (1972), considered the self-actualization process to maximize human potential for a better quality of life.

Quality of life can, of course, cover the entire social structure. A comprehensive definition is given by Harland (1972):

> Quality of life certainly includes access to consumer goods and services, but it means much more. It denotes the state of our physical, mental, and emotional health; civil rights and legal justice; the performance of our educational system (for students of all ages); the air, water, land, and noise pollution of our total environment. Quality of life includes the psychological and sociological dimensions of adequate housing; the enjoyment of cultural, recreational, and leisure time activities; satisfying interpersonal relationships and healthy family functioning; the knowledge and resources to adapt to our changing times, and an equal opportunity to influence the direction and speed of the changes. (p. 1)

Since it is so far-reaching, concern for quality of life has been recognized increasingly by many groups of professionals. The Environmental Protection Agency (1973), as well as other researchers, have identified quality of life as having four aspects: economic, social, environmental, and psychological. Indicators for measuring quality-of-life beliefs for these perspectives have been developed. The Consumer Price Index and Gross National Product (GNP) are economic indicators for measuring growth and progress of a nation. An Environmental Quality Index of seven categories -- air, water, soil,

forests, wildlife, minerals, and living space -- was accepted by the National Wildlife Federation (Kimball, 1973). Social indicators were given by the Midwest Research Institute (1973) in nine general areas: individual status, individual equality, education, economic growth, technological change, agriculture, living conditions, health and welfare, and state and local governments. Furthermore, the psychological indicators investigated by psychologists, such as Maslow's (1970) hierarchy of human motivation, include physiological, safety, love and belongingness, esteem, and self-actualization.

Quality of life as a concept has many meanings and intangibles -- what is important to one may not be important to another (Wallace, 1974). However, there is a minimum quality of life, which the nations are attempting to provide for all their people. UNESCO (1975a), in a statement of goals in the Asian region, listed adequate food; good education and health facilities; a pleasant environment; and improved job opportunities, income, and housing as most important to having an acceptable quality of life. Further, it held that the quality of life could only be accomplished through total involvement of all levels of society with people understanding that there are alternative behaviors. The behaviors would need to be selected with care. However, quality of life can be heightened through the development of human resources (Wallace, 1974, p. 21), including improvements in education and teaching. Home economics education, as Mangold (1975) explained, plays an active role in this development:

> Currently, home economics teachers assist students in developing an understanding of attitudes related to various aspects of individual and family living. Usually, family living topics are oriented toward the future quality of life for individuals, families, and nations. (p. 12)

Thus, home economics teachers are among the agents with the potential to contribute to the quality of life of the individual and society.

Professional Commitment

Professional commitment is a silent, personal attribute of a good and effective teacher. It may be called loyalty, dedication, or devotion of teachers to their professions. Smith (1959) stated that the commitment of members of a profession, including teaching, is its strength. Therefore, without a high degree of commitment from teachers, the attainment of the goals and purposes of education would be diminished (pp. 64-66). In addition, Loftis (1962) offered a definition of committed teachers, as follows:

> Committed teachers are those teachers who are recognized as being devoted or dedicated to the teaching profession. They are serious in their intent to remain in the profession and to make their efforts count in achieving high quality in education. Committed teachers are known by their attitude toward the profession and may include those who show promise as well as those whose work gives evidence of their intent. (p. 24)

Furthermore, commitment is a need motivation to act out behaviors (Krathwohl et al., 1964). Holt (1975) stated that "when people commit themselves to future activities there is a good chance that they will carry them out" (p. 31). Teachers who display behavioral commitment are considered to be holding a value which will endure for a period of time, and they tend to act on behalf of it (Krathwohl, 1964). In addition, Zimbardo et al. (1977) stated that if you get a person's behavioral commitment, his or her attitudes will be changed. Thus, commitment heightens the predictability and probability of certain behaviors of an individual.

It appears likely from the above conceptualizations that an effective population education program will be enhanced by home economics teacher educators who have positive attitudes toward population education, high-level quality-of-life beliefs, and high-level professional commitments to population education concerns that support improvement in individuals and families. Those attributes are substantive factors that enable home economics teacher educators to achieve their professional goals.

CHAPTER 2

REVIEW OF LITERATURE

This study deals with the quality-of-life beliefs, attitudes toward population education, and professional commitments of home economics teacher educators in teachers colleges in the Ministry of Education, Thailand. In this chapter, a review of literature related to Thailand's educational background, home economics education, population education, quality of life, the belief-attitude-behavior-commitment relationship, including some selected studies, will be examined.

Educational Background

The educational system in Thailand at present represents a combination of elements which have influenced the country over many centuries. Before the first half of the 19th century, education in Thailand was centered in the temples and the families. Boys were educated and trained in the Buddhist monasteries, while vocational training and homemaking for girls were carried on only in the family units.

Due to increasing contact with the West since the 17th century, it became apparent that if Thailand was to hold her own effectively against foreigners, she would need to adopt a western type of education so that the pace of change, modernization, and reform in society would be speeded up (Ministry of Education, 1972, p. 2). For understanding overall education in Thailand, the present and 11th national education scheme of 1977 is helpful (the first nationwide scheme of education was proclaimed in 1895). Its educational objective is as follows:

> Education is conceived as a continuing life-long process which promotes the quality of life of the citizen, enabling him to live a useful life in society. The emphasis is thus laid upon education primarily as a means to survival, security and happiness for all in the Thai society. (Ministry of Education, 1977, p. 1)

The latest national scheme implies that education is a continuing life-long activity, whether it be in-school education or out-of-school education. Thus, education should be employed as a means to achieve individual, family, and society quality of life.

In providing for these national schemes, the Teacher Training Department in the Ministry of Education, Thailand, which was established in 1954, is responsible for teacher education programs. Since 1973, there are 36 teachers colleges, seven in Bangkok-Dhonburi Metropolis and 29 scattered around the country (see Figure 1).

Home Economics in Thailand

Traditional home economics in Thailand stressed the role of women in the home. "The young girls from quite an early age were instructed in practical tasks of housekeeping, childcare and cooking and thus, quickly became competent little housewives" (Ministry of Education, 1972, p. 1). Cooking and sewing were emphasized at all levels of the vocational schools for girls. However, the field is changing toward broader concepts which recognize the role of woman as an individual, as a person, and as a member of the family, community, and society (Kuanpoonpol, 1977, p. 53), due to the demands for and the availability of economic, human, and environmental resources. This trend of home economics aims at the overall well-being of the family, rather than merely skill development in a certain narrow area (p. 85).

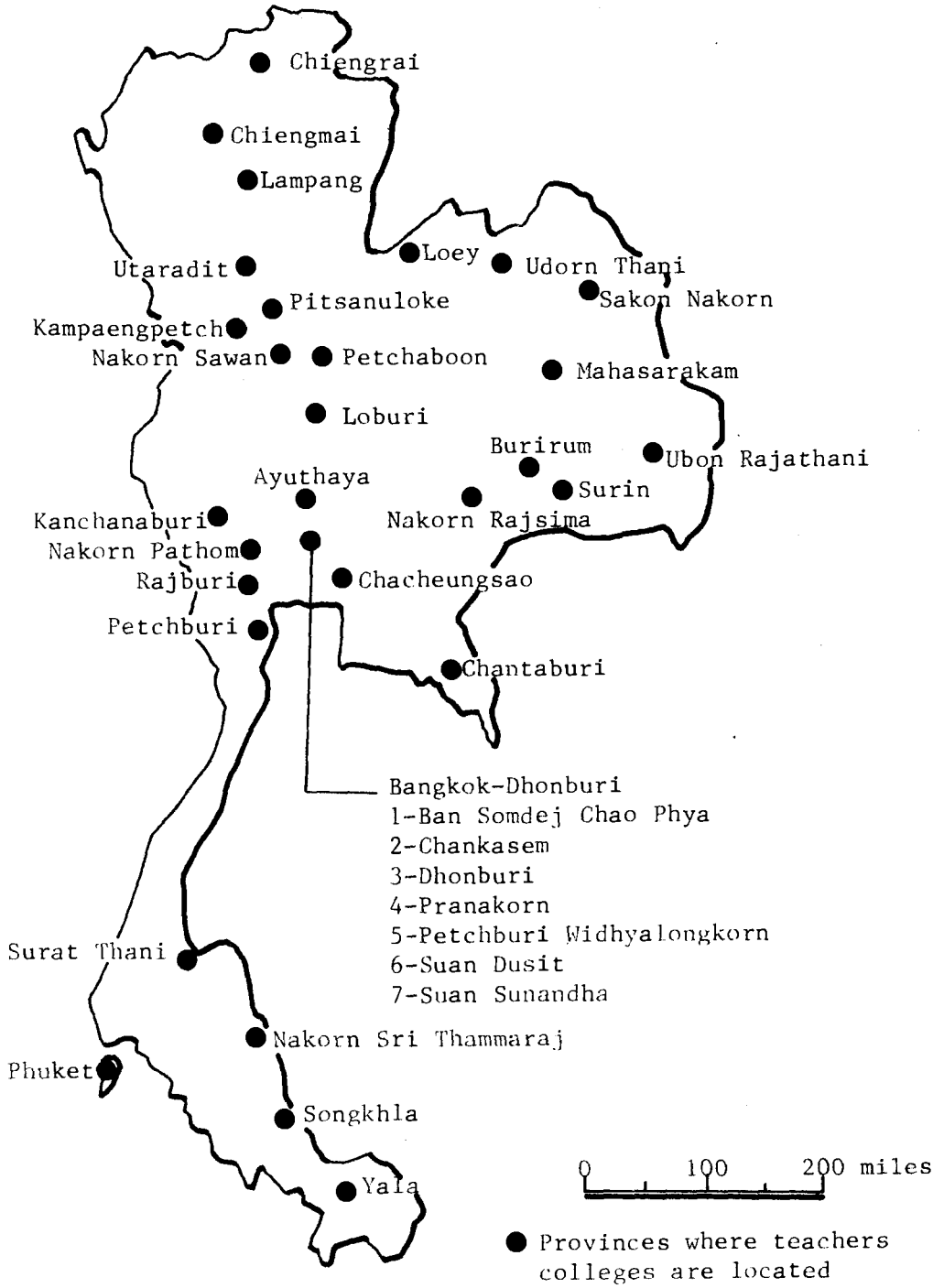

Figure 1: Locations of 36 Teachers Colleges

In a UNESCO survey, Kuanpoonpol (1977) found that the following are currently perceived to be the goals of home economics in Thailand:

1. To improve the quality of the present and future generations of the young through improved knowledge, skills, and attitudes toward everyday living activities in the home.
2. To improve living conditions of the population.
3. To improve the health status of the nation.
4. To retain and strengthen national values and culture, especially within the family.
5. To recruit the services of women for national development both in social and economic sectors. (pp. 30-31)

Consequently, due to the growing recognition of the broader concept of home economics, it is regarded as a compulsory subject at one stage in the girl's school life. However, even though it is perceived by policy makers as important to improve the quality of life of the individual, family, and society, fewer hours (i.e., 100 hours) are compulsory for students in the home economics curricula in Thailand as compared to the Republic of Korea and the Philippines with 1,100 and 852 hours, respectively, for the compulsory level (Kuanpoonpol, 1977, p. 43). Hopefully, when home economics at the university level is developed fully and a large number of teacher educators are produced, then the strength of secondary and elementary levels will be improved as a consequence.

With a broader view of home economics, many topics are highly relevant for infusion of population education concepts (Holt, 1975), and a great number of topics in various areas of home economics naturally lend themselves to integration with population education. Among these,

for example, are the topics of malnutrition among children and pregnant and lactating women in the areas of food and nutrition; values, standards, and goals of the family; family resources allocation in the area of management and family economics; and family establishment and decision-making and the individual's basic need for fullest development in the area of family relations and child development (AHEA, 1977).

Curricula in each area of home economics in Thailand, including those in the Teacher Training Department, have integrated population education concepts. All courses are intended to expose learners to population education concepts and strategies. It is hoped that such curriculum plans will be effective instruments for change and innovation, so that education will play a role in individual and family development together with the socioeconomic development of the country.

Population Education

Population education was first called to worldwide attention by the Population Commission of Sweden in 1935 because of the declining birth rate (Ministry of Social Affairs, 1941). On the other hand, Hauser (1962) of the United States urged the inclusion of population content in the school curricula because of rapid population growth in both industrial and developing worlds. However, no apparent modifications in curriculum resulted (UNESCO, 1978, p. 23) until the early 1970's when Wayland proposed this at the International Conference on Family Planning (in Henry, 1974, p. 15). Moreover, during World War II, the Thai prime minister declared that Thailand must increase its population in order to be a powerful country. As late as 1956, campaigns with various

incentives for having larger families were active around the country (Population Council, 1972, p. 5). From 1960, Thailand's population increased more than one million per year (Mudannayake, 1976). This growth, however, was not contained to just Thailand. A first Declaration of Population at the United Nations Human Rights Day in December, 1966, was signed by 11 countries in the Asian region, including Thailand. An important statement was included:

> The numbers themselves (population) are striking, but their implications are of far greater significance. Too rapid population growth seriously hampers efforts to raise living standards, to further education, to improve health and sanitation, to provide better housing and transportation, to forward cultural and recreational opportunities -- and in some countries even to assure sufficient food. In short, the human aspiration, common to men everywhere, to live a better life is frustrated and jeopardized. (UNESCO, 1975a, p. 2)

During the earlier stages of development of population concern in Thailand, as well as in other developing nations, family planning programs for adults were introduced. The three purposes of these family-planning information activities were, in a narrow sense, (1) to create an awareness that the number and frequency of births could be controlled by using modern contraception techniques, (2) to present the advantages of the reduction in births, and (3) to overcome the deeply rooted resistance to family planning which usually is concerned with physical safety (UNESCO, 1978, p. 24; Holt, 1975). Propaganda techniques were used via mass media and professional workers. The Thai people, especially the uneducated and rural women, were asked to accept specific decision-making values, and actions which were already decided. In defense of these tactics, however, it should be noted that in the late 1960's the population growth rate was 3.3 percent; Thailand was the

13th largest country in the world (The Population Council, 1972). Therefore, it might have been necessary to employ such techniques in order to cope with the socioeconomic development.

Today, family planning programs are provided in a broader approach. They aim at achieving not only a better quality of life, including (but not limited to) family planning, but also programs for national development and community and family welfare, e.g., health and agriculture (UNESCO, 1978, p. 25). Some program organizers claim that "educational efforts aimed at adults had to overcome deeply entrenched traditional learning, and they suggested that younger age groups might be more appropriate educational targets: the school, with its captive audience, was the obvious place to start" (UNESCO, 1978, p. 25). However, the first national school programs introducing population education were developed in Asia -- in 1969 in India and in 1970 in the Phillipines and Korea.

In 1970, a major workshop, held in Bangkok under the auspices of the UNESCO Regional Office for Education, had a considerable impact on population education. A large number of participants were involved, and the formal definition of population education was first described (UNESCO, 1971, p. 13). At this stage, problem-oriented techniques were employed. The decision-making was to be made by individuals. No set of values or ready-made courses of action were to be presented to students.

Today, the population education goal is to involve students in a learning process, to extend their understanding of population-related issues, to broaden their perspectives, and to develop their skills in analyzing and defining issues in a way that is personally meaningful and

socially relevant. Hopefully, educational processes will provide knowledge and create concern, and change individuals' beliefs, attitudes, and behavior-commitments in order to enhance individual, family, and national quality of life. The central concern in population education is with the impact of population factors for socioeconomic and environmental development, and the alternative choices available to individuals, to families, and to the nation. Thus, in the home economics field, population issues related to quality of life at both macro- and micro-levels should be the knowledge-base for discussion in population education courses.

Definition of Population Education

As stated earlier, population education is a new field of study which has emerged only during the last 10 years. It is interesting to see how the concept has been developed by a number of experts, and how groups of specialists have contributed their thoughts. The author agrees with Kline (cited in World Education, 1973, p. 22) that "no one definition could meaningfully define all of the different activities for what we call Population Education." In fact, each definition emphasizes different concerns. Furthermore, some definitions made more sense to some individuals. Thus, this researcher includes what seemed to be definitions and interpretations of population education for the purpose of clearly understanding, as presented below:

> Population education seeks to bring about a realization of the individual, family, social and environmental effects of the explosive increase in human population, the rapid shifts in the concentration and distribution of the people, the implications of changing age and other demographic patterns, and the conceivable options that may open to mankind to cope

with the consequent problems. (Population Reference Bureau, 1970, p. 7)

. . . population education is an educational programme which provides for a study of the population in the family, community, nation, and world with the purpose of developing in the students rational and responsible attitudes and behavior toward that situation . . . . (UNESCO, 1971, p. 13)

On the one hand, the program would develop an appreciation by the individual of the consequences for his family and society of his own actions and attitudes, and on the other hand, it should develop an appreciation of the consequences for the individual of the population changes that are occurring in his community and nation. (Wayland, 1972, p. 10)

. . . to help the individual perceive the problems created by population change; relate his own experiences, actions and decisions to the processes which produce these changes; and act in response to accurate information about the options available to him. (Horsley et al., 1972, p. 13)

. . . the process by which the student investigates and explores the nature and meaning of population processes, population characteristics, and the causes of population changes in addition to the consequences of these processes, characteristics, and changes for himself, his family, his society, and the world. (Viederman, 1972, p. 17)

Population education involves more than learning the size of different populations, although ideally it does include some elementary knowledge of the arithmetics of population growth. It should incorporate into the curriculum concepts and materials that deal with population processes and characteristics, causes of change, and most importantly, the consequence of such changes for the individual, and the society. Population education should additionally be concerned about the effective means by which an individual, and his society, can deal constructively with the consequences of population changes. (Viederman, 173, p. 2)

. . . definitions usually <u>reflect</u> what is happening in a field of endeavor and do not <u>determine</u> what will happen. One thing obvious about the field of population education is there is no single definition that applies to the whole field, mainly because there are so many different types of activities that can be called population education and no one definition could meaningfully define all of these different activities. (World Education, 1973, p. 22)

<u>Population education</u> -- designed to help people understand the nature -- and particularly the causes and consequences -- of population events. It is directed at people -- as individuals

> or as members of groups, as decision-makers or potential decision-makers within their families, as citizens within a community, as leaders within a society and as policymakers within a nation. All people are population actors, making population-related decisions. (World Education, 1973, p. 2)

The common concerns of the above definitions could be interpreted as:

1. Both quantity and quality of all individuals, families, societies, nations, and the world should be among our concerns.

2. Since population is a key issue, any causes and consequences in relation to population changes and problems facing mankind's quality of life should be studied.

3. Population-education program content, therefore, should include not only the population situation -- size, growth, composition, distribution, migration, and trends -- but also other characteristics, processes in relation to all aspects of quality of human life: food and nutrition, health, environment, education, employment, socioeconomic development, political system, especially individual and family decision-making.

4. The learners' knowledge, attitudes, and behaviors should be considered. The learners should be informed, knowledgeable, and able to relate the facts about the population situation. Attitudes should be rational and continually re-evaluated based on facts in various fields, providing alternative options. Responsible actions or behavior should be for the larger good for all individuals.

5. The educational means recommended is an inquiring method to have student discussion and involvement in decision-making processes -- investigating, exploring, discussing, and expressing various opinions

among them. The teacher's role should be that of a facilitator, not an imparter of knowledge.

Goals and Objectives

The general goal of population education is to prepare the learners for responsible citizenship concerning population-related decision-making. Consequently, the first goal of population education to be discussed here is the support of national and local socioeconomic development. Decisions made by individuals and families affect population dynamics and the quality of life of families and societies. Similarly, national population policy, public beliefs, and social norms could affect individual decision-making such as age at marriage, completed family size, immigration, etc. (UNESCO, 1978, p. 39). Social customs, traditions, and religious beliefs are parts of the goal (UN, 1974, p. 13). The interrelationships and interactions between the national level and the family level are affected by each other directly and indirectly.

Secondly, the learners' characteristics must be taken into account when setting the goal. The content must be laid out in relation to the following factors which affect learning outcomes: (1) the learner's level of maturation and intellectual development; (2) the learner's social, cultural, and economic environment; and (3) the learner's background of experience.

Thirdly, the goal should be clearly stated in terms of outcomes sought -- knowledge, attitudes, behaviors, and skills. The goal of population education is to provide the information and

understanding, but the decision-making and subsequent action will be left for the learners. Each step of the decision-making process should attempt to provide the learners with understanding, attitudes, and values from the information. What the learners are actually expected to do or achieve in order to acquire the desired skills, understanding, attitudes, or values must be made clear. From this, future behaviors and actions should result.

Fourthly, the goal of population education should be "value-fair" if not value-free (UNESCO, 1978, p. 37). It is apparent that it is impossible for a teacher to be in a value-free position, since the organization of content, materials, and strategies are always based on some goals. However, the value-fair position should be possible, if the teacher's task is "to broaden learners' perception of population issues in ways that will enable them to examine the ramifications and repercussions of the issues. Informed decision-making is possible only when information concerning a range of alternatives has been collected, analysed, weighted and judged" (UNESCO, 1978, p. 38).

In addition, the general goals of population education are summarized by Viederman and Wayland as follows:

> To enable learners to acquire the knowledge, skills, attitudes and values necessary (a) to understand, and (b) to evaluate the prevailing population situation, the dynamic forces which have shaped it and the effect it will have on the present and future welfare of themselves, their families, communities, societies, nations, and the world; (c) to make conscious and informed decisions (based on their understanding and evaluation); and (d) to respond (either by an intention to act or by an action itself) to population situations and problems in a conscious and informed manner. (cited in UNESCO, 1978, p. 36)

Thus, the process of understanding, evaluation, decision-making, and responding in population education will contribute to the innovation and renovation, in general, of the educational system.

Knowledge Base and Methodology

The knowledge base for population education is drawn from various disciplines. The body of knowledge, concepts, and theories explains the dynamics of human population and their relationships with the social, economic, political, historical, geographical, environmental, cultural, psychological, and biological aspects of family welfare. The demographic data and folk demographics at national, international, regional, and family levels as related to various aspects of quality of life are the core contents.

A number of content organizational frameworks were recommended by UNESCO (1978, pp. 47-52). For example, the socioeconomic development framework focuses on both macro-level concerns (e.g., international economic orders, mobilization and allocation of resources) and micro-level concerns (e.g., cost-benefits of children, family economy, labor force, and employment). The political framework focuses on international and national power shifts as a result of population changes, the government parties and rewards for supporting national policies, etc. The ecosystem environment framework emphasizes the uses of resources and contamination of the environment. The human rights framework focuses on the freedom of human beings to have as many children as they want, to choose a residence, to have a good quality of life, and to be free to choose religions and political, social,

cultural, and ethical values. The sexuality and responsible parenthood framework deals with human reproduction, transmission of fertility information, and tradition. The determinants and consequences of population behavior framework modifies student behaviors to reach their expected future. The alternative futures framework lets students know that their decisions and actions today will have some implication for themselves and future generations. The quality-of-life framework focuses on all areas that will affect quality of life of individuals, their families, their nation, and the world.

In Thailand as well as in other Asian countries, the methods of teaching appear to be mostly teacher-centered, which is characterized as lectures of a lesson series, written reports, class debates, and evaluation of written materials; thus, the role of learners is passive. In contrast, population education suggests learner-centered methods which emphasize the learners' active participation. These methods include, for example, local field surveys, for obtaining local population data; group discussion, for reporting findings; "buzz sessions," for discussion, information and results; case studies, for recording evidence and summarizing problems; and simulation games, for evaluating the effects of population events (UNESCO, 1978, p. 66).

Further, the following skills in problem-solving are recommended: identification and definition of problems; collection, selection, and organization of information; analysis and judgment; and deciding upon and/or planning alternative responses for present and future action. However, some limitations do exist. These limitations are attributed to the administrative structure of the school system, the extent and

quality of pre-service and in-service teacher training, the availability of teacher/learning material, and the past learning experience of students. Besides, research indicates some variables which cannot be controlled, such as the effectiveness of methods, learning contexts, teacher personality, style of teaching, teacher-learner relationships, kinds of motivation, learning environment, and the teacher's degree of commitment (UNESCO, 1978, p. 67).

Quality of Life

A number of authors and researchers have been trying to find an index of quality of life. The categories may vary, but the concepts of each index are alike. Gitter and Mostofsky (1973, p. 290) proposed that quality of life refers to the condition of a person's day-to-day existence, where "the level of quality of life" refers to some point which may be represented on a scale devised to measure the relevant conditions. One can consider quality of life as a unitary construct involving all of the conditions of a person's life as a whole (e.g., happiness, good relationships), or one can focus on the separate aspects of a person's life (e.g., health, economics). Sheldon and Moore (1968) and Gitter and Lewis (1971) proposed two types of social indicators: (1) objective and (2) subjective. Each serves different functions. The objective indicators would be used to provide "factual" information about the quality of life, while the subjective indicators would show how people evaluate their lives. Sawchuk and Gitter (1971) explained that the objective indicators measure phenomena or the state of reality of life (e.g., GNP, hospital record), while the subjective indicators

involve the respondent's standard and judgment of reality, either as a whole or as some aspect of life.

Quality of life does vary by social areas, unique to a culture and even particular to an individual. Mitchell et al. (1971) and the Environmental Protection Agency (1973) postulated that quality-of-life concerns are particular to each individual. Wallace's (1974) findings revealed that quality-of-life concerns are unique to an individual and to culture. James' (1976) study showed that overall perceived quality of life does vary by social area when measuring various life domains (e.g., recreation, income, environment, transportation, housing, and safety/security). This author agrees with James, in that it is necessary for policy makers to generate sufficient information for determining needs, setting priorities, and designing and developing programs before implementing them to improve the quality of life.

Quality-of-Life Indices

Various attempts to identify an index of quality-of-life indicators have resulted in a number of indices which include similar concerns. Social scientists determined important aspects of life accepted by the U.S. Department of Health, Education, and Welfare (1969), as follows: (1) health and illness; (3) social mobility; (3) physical environment; (4) income and poverty; (5) learning, science, and art; (6) public order and safety; and (7) participation and alienation. Similarly, ten variables selected as indicators of quality of life by persons in psychotherapy included (1) working, (2) leisure, (3) eating, (4) sleeping, (5) social contact, (6) earning, (7) parenting, (8) loving,

(9) environmenting, and (10) self-acceptance (Donaldson, 1976). In her study with international subjects from 18 different countries, including Thailand, Wallace (1974) classified quality of life into seven aspects: (1) health and welfare; (2) interaction with one's environment; (3) human resources; (4) concerns for all people; (5) mental, physical, and emotional well-being; (6) economic development; and (7) security.

In Asia, UNESCO (1975b) identified various areas as the basis for maintaining and enhancing the quality of life for the individual and community: (1) food and nutrition; (2) health; (3) education; (4) environment and income; (5) employment; (6) the status of women; and (7) housing. Each of these areas is affected one way or another by the other. Population growth and migration (rural-urban migration) are the two basic factors that are causally related to various aspects of these quality-of-life themes.

In summary, quality-of-life indicators seem to fall into four areas -- environmental (physical), social (political), economic, and psychological (emotional).

Selected Research Studies on Quality of Life

Quality of Life (QOL) has been a concern of investigators in various fields, such as social psychology (Pflaum, 1973; and Zautra, 1975); sociology (Ziglin, 1974; Selbyg, 1975; Tarbert, 1975; and Byerly, 1977); education and administration (Haslip, 1974), including operation research (Légasto, 1974); and political science (James, 1976). Undoubtedly, researchers in the field of home economics education (Wallace, 1974; Ackerman, 1977; and Butler, 1977) are interested in QOL,

because QOL of individuals and families are major concerns of home economists.

Most of the research in these fields depends on an index of QOL. For example, Pflaum's (1973) research proposed that four major dimensional components could be defined, and reflected the various theoretical approaches taken to the concept of life quality. These four major components are (1) biological functioning, (2) self-development and personal growth, (3) primary social functioning (in a face-to-face relationship), and (4) secondary social functioning (within a group or institutional context). Tarbert's (1975) research defined QOL in five areas: (1) economics, (2) education, (3) housing, (4) climatic desirability, and (5) public safety. Similarly, James' (1976) research presented (1) income, (2) housing, (3) recreation, (4) transportation, (5) environment, and (6) safety/security as various life domains. Furthermore, Ziglin's (1974) research proposed moral and spiritual development as an indicator of QOL due to its concerns for social disorders.

In the field of home economics, Ackerman's (1977) and Butler's (1977) research emphasized a human ecological approach and family income adequacy to QOL, respectively. Both researchers recommended use of both objective and subjective measures to explain the variation of QOL concerning family economics. Ackerman (1977) studied the relationship of family income adequacy to life quality. Life quality measures were respondent perceptions of their satisfaction with family income, level of consumption, and overall life quality. The results indicated that satisfaction with family income, level of consumption, and overall life

quality increased as family income adequacy increased. Ackerman (1977) concluded that (1) income adequacy needs to be measured both objectively and subjectively to explain variation in perceived life quality, and (2) congruency between income adequacy measures explains little of the variation in perceptual measures of life quality.

Butler's (1977) research emphasized a human ecological approach to quality of life, focusing on (1) the individual, (2) his environments, and (3) the interaction between them. The four environments included clothing, dwelling, family, and community. Measures of the individual, environments, and interaction, which were considered as indicators of perceived well-being, were both subjective and objective. The findings indicated that the low "perceived overall quality of life" group expressed more negative perceptions of change and lower satisfactions with all four environmental life concerns, especially with the family and community environments. In summary, these findings supported the viability of a human ecological model as the economic indicators, in addition to the social indicators, to aid policy makers in designing public programs that affect the quality of life.

Wallace (1974) developed a valid and reliable measure of QOL that is compatible with the above studies and suitable to measure the various aspects of home economics. Her study of subjects from 18 countries was directed toward differentiating quality of life concerns among people within the United States and people in other countries. She hypothesized that the lower need-level concerns for quality of life would vary from country to country, while higher need-level concerns would not differ systematically from country to country. The subjects

were international, professional home economists who had been involved in AHEA International Family Planning Projects within 18 countries. The findings supported the notion that components of quality of life can be identified and categorized.

Byerly (1977) compared the responses of male and female high school graduates to indicators of quality of life and job satisfaction. Byerly found that differences consistent with national trends existed between male and female graduates of Cedar Rapids, Iowa. These areas of differences between males and females were found to be: (1) having a close relationship with a spouse; (2) being a parent; (3) the importance of relationships with parents, siblings, and other relatives; (4) having close friends; (5) participating in activities which help or encourage other adults and children; (6) participating in active recreation; and (7) self-expression through music, art, writing, photography, and practical participation in activities related to local and national government.

Selbyg's (1975) study indicated that in spite of the progress and higher income as the result of a new industry, the residents of an isolated industrial community (Ardel, Norway) were much more dissatisfied with the overall quality of life in their community than the residents of other (Norwegian) areas. The finding is compatible with those of James (1976), which is that the overall perceived quality of life does vary by social area when measuring the various life domains of (1) income, (2) recreation, (3) housing, (4) transportation, (5) environment, and (6) safety/security. Furthermore, Selbyg's study showed that perceived QOL varied according to the population

composition. Ardel had more men, more immigrants, and fewer elderly. In all areas studied, higher satisfaction prevailed among older than among younger people, among women than among men, and among natives than among immigrants.

An attempt to determine the relationship of quality of health and the quality of life can be found in Ziglin's (1974) study. The results showed that the security-oriented subjects tended to emphasize health as being a crucial variable in the quality of life and in success-achievement. Security-oriented subjects seemed to emphasize some components of the quality of health and not others.

Légasto (1974) indicated in his study that "the quality of life in a national system is determined not only by economic progress, but also by personal, social, political, cultural, demographic, and other conditions" (p. 2). It is useful to identify the important components of this quality-of-life index which may be different, if not in form, at least in intensity, for different interest groups in the system. The definition of quality of life relevant to developing countries proposed by Légasto's (1974) study included (1) gross national product per capita, (2) an index of income distribution, (3) a sociological component called personalism (as opposed to impersonalism), and (4) a social-psychological component called "economic dissonance" or social frustration.

In conclusion, QOL has been a major concern of various fields, including home economics education. Most of the researchers emphasize the search for an index of quality of life. For the most part, all of them are compatible, but divided into different categories or

classifications, depending on their theories of thought or their approaches. However, the human basic needs for physical, mental, social, and environmental well-being are always emphasized. QOL is unique for individuals and groups. It is recommended that research precede policy planning for the quality of life of any particular individual or group of people.

Belief-Attitude-Behavior-Commitment

Psychological theories relate changes in stimulus conditions to changes in the behavior of humans and animals. Building the theories that account for human behavior is the most difficult of all intellectual activities; requires "an unusual level of creative thinking, some attribute, and the confidence to risk being wrong" (Zimbardo et al., 1977, p. 55). Teaching population education is directly involved with the process of changing belief-attitude-behavior-commitment of learners. An examination of the theories and concepts regarding beliefs, attitudes, behaviors, and commitments is central to understanding those complex human phenomena.

Belief

The human mind is belief-seeking (Jastrow, 1927, p. 284). A person's beliefs, such as knowledge, information, opinion, value, faith, delusion, stereotype, prejudice, etc., compose one understanding of self and environment (Bem, 1970, p. 5; Fishbein and Ajzen, 1975, p. 13; Rokeach, 1968, pp. 125-126). They are the fundamental building blocks in an individual's conceptual structure. On the basis of direct

experiences, information from different sources or by way of various inference processes, a person learns or forms a number of beliefs about an object or a situation. One's total belief system includes primitive beliefs, authority beliefs, derived beliefs, and inconsequential beliefs; not all beliefs are equally important to the individual (Rokeach, 1968, pp. 3-12; Triandis, 1971, p. 74). According to Fishbein and Ajzen (1975), the "totality of a person's belief serves as the informational base that ultimately determines his attitudes, intentions, and behaviors" (p. 14).

Many researchers define belief as the information a person has about an object, linking that object to some attribute (Zimbardo and Ebbesen, 1969). For example, a belief may link the object of "using birth control pills" to the attribute of "preventing pregnancy." "If a man perceives some relationship between two things or between some thing and a characteristic of it, he is said to hold a belief" (Bem, 1970, p. 4). The objects of a person's beliefs could be self, people, institutions, events, policies, or behavior; and the associated attribute could be objects, traits, properties, qualities, characteristics, outcomes, and events. Concerning object-attribute association, people may differ in their belief strength (Fishbein and Ajzen, 1975, p. 12).

Accordingly, "faith" refers to one or more beliefs a person accepts as true, good, or desirable, regardless of social consensus or objective evidence, which are perceived as irrelevant. "Our faith in the validity of our sensory experience is the most important primitive belief of all" (Bem, 1970, p. 5). On the other hand, a "delusion" is a belief held on

faith judged by an external observer to have no objective basis and which is, in fact, wrong. A "stereotype" is a socially shared belief that describes an attitude object in an oversimplified or undifferentiated manner. Furthermore, the "prejudicial beliefs" are based on ignorance (Zimbardo and Ebbesen, 1969, p. 4). Also, a "value" is a type of belief, centrally located within a person's total belief system, about how one ought or ought not to behave or about some end-state of existence worth or not worth attaining (Rokeach, 1968, pp. 124-125). Every person's desire to know the truth would dispel such false beliefs (Zimbardo et al., 1977, p. 154).

Bem (1970) divided beliefs into five classifications. First, are the zero-order beliefs in which persons are unaware of facts, the nonconscious axioms upon which other beliefs are built. Second, are the first-order beliefs (primitive beliefs) based upon single-sensory experiences. Third, are first-order beliefs (abstract primitive beliefs) based upon several separate experiences. Fourth, are primitive beliefs based upon authority. Fifth, are the generalization and stereotype beliefs in which beliefs generalize from several experiences. When individuals treat such generalizations as if they are universally true, they are called stereotypes (Bem, 1970, p. 17). "Stereotypes are over-generalized beliefs based on too limited a set of experiences. All of us rely upon stereotypes to some extent for 'packaging' our perceptual and conceptual worlds" (Bem, 1970, p. 10).

Rokeach (1968, pp. 7-9) also classified belief into five types: (1) primitive beliefs (100 percent consensus), in which a person's primitive beliefs represent his basic truths about physical reality,

social reality, and the nature of the self (this type of belief represents a subsystem within the total system in which the person has the heaviest commitment); (2) primitive beliefs (zero-consensus), which include unified beliefs based on faith, delusion, and hallucination from learned experiences; (3) authority beliefs (nonprimitive beliefs), in which the child has a more selective conception of positive and negative authority as he interacts with other persons; (4) derived beliefs, which can probably be easily changed by a persuasive message from a trusted authoritative source; and (5) inconsequential beliefs, which have relatively few connections with and few consequences for other beliefs.

Further, a belief is any simple proposition, conscious or unconscious, inferred from what a person says or does, capable of being preceded by the phrase, "I believe that . . . ." The content of a belief describes the object and its attribute of belief as true or false, correct or incorrect; evaluates the object as good or bad; or exhorts the advocate to a certain course or a certain state of existence as desirable or undesirable. All beliefs are predispositions to action, and an attitude is thus a set of interrelated predispositions to action organized around an object or situation.

Rokeach (1968) also held that beliefs have three functions: (1) discipline or existential, (2) evaluative, and (3) prescriptive or exhortatory. Each belief within an attitude organization is considered to have cognitive, affective, and behavioral components. First, the cognitive component represents a person's knowledge, held with varying degrees of certitude, about what is true or false, good or bad, desirable or undesirable. Second, the affective component exists due to

suitable conditions where the belief is capable of arousing effects of varying intensity centering around the object of the belief. When its validity is seriously questioned, as in an argument, the belief will take a positive or negative position. Third, the behavioral component is present because the belief, being a response predisposition of varying threshold, must lead to some action when it is suitably activated (p. 113).

In an attempt to influence the learner's total belief system, teachers must recognize three assumptions of beliefs presented by Rokeach (1968). First, not all beliefs are equally important to the individual; they vary along a central-peripheral dimension. Second, the more central a belief, the more it will resist change. Third, the more central the belief changed, the more widespread the repercussions in the rest of the belief system. In addition, the more a given belief is functionally connected or in communication with other beliefs, the more implications and consequences it has for other beliefs and, therefore, the more central the belief (Rokeach, 1968). Violation of any primitive beliefs supported by unanimous consensus may lead to serious disruption of beliefs about self-constancy or self-identity. Consequently, from this disruption, other disturbances would follow, such as disturbances in one's feelings of competence and effectiveness (White, 1959). This could lead one to question the validity of many other beliefs within one's belief system, and require major cognitive reorganization in the content and structural relations among many other beliefs in the system (Rokeach, 1968).

Change in belief can be produced by exposing or creating inconsistencies in the belief system (Bem, 1970, p. 24). Inconsistency motivates belief and attitude changes, and acts as an irritant or stimulus which motivates individuals to change their beliefs and attitudes (Bem, 1970, p. 34). Abelson (1959), according to Bem (1970, pp. 28-29), recommended four ways of reducing inconsistency and providing a basis for belief: (1) to deny one of the troublesome beliefs involved; (2) to bolster one of the attitudes by seeking out other supportive beliefs, and thus attempt to "swamp" the inconsistency; (3) to differentiate all of the belief objects into separate parts; and (4) to transcend by seeking two disparate beliefs as part of a larger, or transcendent unity. Bem (1970) and Zimbardo et al. (1977) held that it is possible to reduce dissonance in other ways: (1) by attempting to revoke the decision, (2) by lowering the importance of the cognitions or the decision, (3) by increasing the cognitive overlap between cognitive elements (searching for or misperceiving aspects of functional equivalence), and (4) by adding elements to change the ratios of dissonant to consonant ones.

In summary, beliefs can be derived by a number of inferential processes. Exposure to more information, factual knowledge, direct or indirect experience, etc., appears to enable learners to revise their beliefs to ones based on facts and truths. If a set of experiences is too limited, it will cause learners to have the less-truthful beliefs, such as faith, delusion, prejudice, and stereotype. Theoretically, learners will change their beliefs more or less each day, depending on the kinds and strength of daily experiences and information feeding

their belief systems. Reorganization of beliefs is caused by the inconsistency of the total "belief" systems. This approach views man as an essentially informative, rational organism, who uses the information at his disposal to make judgements from his evaluation, arrive at a decision, and perform the appropriate behaviors (Kiesler, 1971).

Attitude

It is surprising that few investigators agree on an explicit definition of attitude (McGuire, 1969; Kiesler et al., 1969). However, Fishbein and Ajzen (1975) stated that "most investigators would probably agree with a description (or definition) of attitude as a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object" (p. 40). There is a widespread agreement that the affective component is the most essential part of attitude.

Rosenberg (1960) noted that all responses to a stimulus object are mediated by the person's attitude toward that object. A person's responses can be classified into three categories: (1) cognitive (e.g., perceptual responses and verbal statements of belief), (2) affective (e.g., sympathetic nervous responses and verbal statements of affect), and (3) behavioral (e.g., overt actions and verbal statements concerning behavior). Thus, it seems that there is a very close relationship among a person's beliefs-attitudes-behaviors as well as one's various responses (Fishbein and Ajzen, 1975, pp. 340-341).

Regarding the relationship of "beliefs and attitudes," all attitudes incorporate beliefs, but not all beliefs are necessarily a

part of attitudes (Rokeach, 1968, p. 115). Attitude can be viewed as "an organization of belief" (Rokeach, 1968, p. 112). That is, several beliefs are contained within an attitude; several attitudes are within a more inclusive attitude system; and all of man's beliefs, attitudes, and values are within his total cognitive system. If a change occurs in one part, it may lead to reorganization in the whole system (Rokeach, 1968, p. 117). In addition, Zimbardo et al. (1977, p. 50) conceived that changes will persist if accompanied by a major reorganization in beliefs and attitudes to sustain the change in behavior.

Concerning the relation between "attitudes and behaviors," Triandis (1971) clearly held that

> attitudes involve what people think about, and how they would like to behave toward an attitude object. Behavior is not only determined by what people would like to do, but also by what they think they should do, that is, social norms, by what they have usually done, that is, habits, and by the expected consequences of the behavior. (p. 14)

Similarly, Krech et al. (1962, p. 163) believed that "action is determined not by a single attitude, but by a number of attitudes, wants, and situational conditions." Furthermore, Rokeach (1968) stated that "a person's social behavior must always be mediated by at least two types of attitudes -- one activated by object, the other activated by the situation" (p. 126). Without taking both types of attitudes into consideration, LaPiere (1934) and Kutner et al. (1952) found discrepancies between attitudes and behaviors. Due to the tendency for consistency in alignment of attitudes with actual behavior, changes in attitude can cause changes in behavior, and vice versa. For example, take the case of a businessman supporting a particular political program

for the purpose of increasing the number of his clients. Having convinced himself, and now trying to convince others that the particular political program has great merit, his attitude gradually becomes positive toward the program (Triandis, 1971, p. 6). Fishbein and Ajzen (1975, p. 3) supported the idea that a person's intention to perform a given behavior is a function of two basic determinants: an attitudinal (personal) factor, and a normative (social) factor.

The attitudinal component refers to the person's attitude toward performing the behavior in question. The normative component is related to the person's beliefs that relevant referents think he should or should not perform the behavior, and his motivation to comply with the referents.

Thus, the formation of a given intention depends on the prior formation of a particular attitude (i.e., attitude toward the behavior in question) and of a particular belief (i.e., subjective norm). His beliefs about the referent's power and about the consequences of complying with the referent may influence his motivation to comply. The stimulus conditions, for example, experimental situation, characteristics of target persons, behavioral variations, situation variations, variations in time, individual differences, and characteristic of referents, could have an effect on the information base (Fishbein and Ajzen, 1975, pp. 332-334).

Behavior

Fishbein and Ajzen (1975, p. 335) defined overt behavior as observed acts that may be studied in their own right or may be used to

infer beliefs, attitudes, and behavioral intentions. Most of the time there are many different causes for any particular action. The most popular current view seems to be that outside pressures can create an inconsistency between a person's behavior and his or her attitudes. Any change in attitude will cause a corresponding change in behavior (Zimbardo et al., 1977, p. 78). Variables which influence behaviors are not only attitudes (what people would like to do), but also habits (what they usually do), social norms (what people think they should do), and expected consequences (what they expect to happen) (Triandis, 1971, p. 14). Wicker (1969, p. 65) proposed the other variables that cause the inconsistent relation between attitude and behavior; for example, other attitudes, competing motives, verbal ability, intellectual ability, social ability, individual differences, actual or considered presence of other people, normative prescription of proper behavior, alternative behaviors available, expected or perceived consequences of various acts, and unforeseen extraneous events (Fishbein and Ajzen, 1975, p. 344).

Many investigators agree that "there is no one-to-one correspondence between attitude and any given behavior" (Fishbein and Ajzen, 1975, p. 343). A number of other researchers showed that a one-to-one relationship between a given attitude and a particular behavior is found to be weak. Thus, due to the interrelationships among attitudes, a change in one attitude may be accompanied by a change in many different behaviors. Therefore, the complexity inherent in the attitude-behavior link should be recognized. That is, it should be emphasized that these are "population" characteristics rather than simply the behavior of a "single individual," so that attitudes will be

useful primarily in predicting group averages and the percentage of people in a population who behave in certain ways (Zimbardo et al., 1977, p. 52).

Commitment

Commitment heightens the probability and predictability of behavior. It is variously defined as (1) "the heightening of the probability that any action will be undertaken; (2) an ordering of the likelihood of actions; or (3) a condition of heightened predictability of action" (Abramson et al., 1958, p. 16).

As mentioned earlier, commitment is a real motivation to act out the behavior. Persons' commitments are based on their beliefs and attitudes. Belief at the commitment level involves a high degree of certainty, beyond a shadow of a doubt. The ideas of conviction and certainty help to convey further the level of behavior intended; in some instances, this may border on faith or nonrational grounds. Individuals usually feel that there is a tension to drive or arouse them to try to seek and fulfill their commitments. One will try to convince others and seek converts to one's cause. Loyalty to a professional organization, to a position, or to a group are examples of an individual's commitments (Krathwohl et al., 1964, p. 182).

Krathwohl et al. (1964, p. 150) stated that a person who displays behavioral commitment is clearly perceived as holding a value. The valuing of objects or phenomena endures over a period of time. Commitment is never a momentary or occasional enthusiasm or passion to be replaced by another temporary one. However, the holding of a value

over an extended period of time is not in itself sufficient evidence of a commitment. There must be a considerable investment of energy and time in the objects or phenomena that are valued. There should be some actions in behalf of such values, beliefs, or sentimental actions which by their nature imply a commitment. There are some instances where a person is committed to some view, but never has an opportunity to act in behalf of it.

When an individual is induced to comply publicly with decisions and actions that are contrary to personal beliefs and attitudes, the need to be consistent changes private events to bring them in line with the public commitment (Festinger, 1957; Bem, 1967; Brehm and Cohens, 1962). Therefore, values, motives, beliefs, perceptions, and attitudes may be modified. Commitment or public action is important in the theory for two reasons. First, the observers do not have to make questionable inferences about the individual's covert decision; thus more certainty is permitted in defining the conditions under which dissonance occurs. Secondly, public actions are anchored more in external reality than are private responses (for example, thoughts, values, motives, intentions, and attitudes). If one commits oneself to some course of action while remaining aware of one's volition to do otherwise, dissonance is more likely to occur in a given situation (Zimbardo et al., 1977, pp. 68-72).

Zimbardo et al. (1977, p. 229) stated that one should "get the behavioral commitment anyway, and attitude change will follow." It will be more difficult to change cognition of one's public behavior (commitment) than the cognition of one's private attitude. Thus, when dissonance exists between behavior and attitude, the behavioral

cognition will remain the same, while the attitudinal cognition will change so as to agree with the behavior to pursue commitment. Timing is essential in knowing when to ask for commitment and when to quit with an interactable person. When we believe that a person is about to make the commitment (e.g., make a verbal agreement), that is the right time to stress the fact that the decision is of one's free choice with no pressure. After getting commitment on the easy alternatives, a communicator can push for the more difficult ones (Zimbardo et al., 1977, pp. 229-230).

In conclusion, there are relationships of belief, attitude, behavior, and commitment. That is, when individuals are exposed to various messages (e.g., information and situations related to population studies), their beliefs and belief systems will be formed. A number of beliefs will, later, produce and affect their attitudes, which contain selection and evaluation characteristics. Attitudes, including at least attitude-toward-object and attitude-toward-situation, will influence individuals' behaviors. Repeated performance of any set of behaviors leads individuals to commitment. In the same respect, favorableness and unfavorableness of experiences in performing some behaviors may result in imposing and re-evaluating of some attitudes and beliefs, respectively.

Figure 2 shows the relationships of belief, attitude, behavior, and commitment.

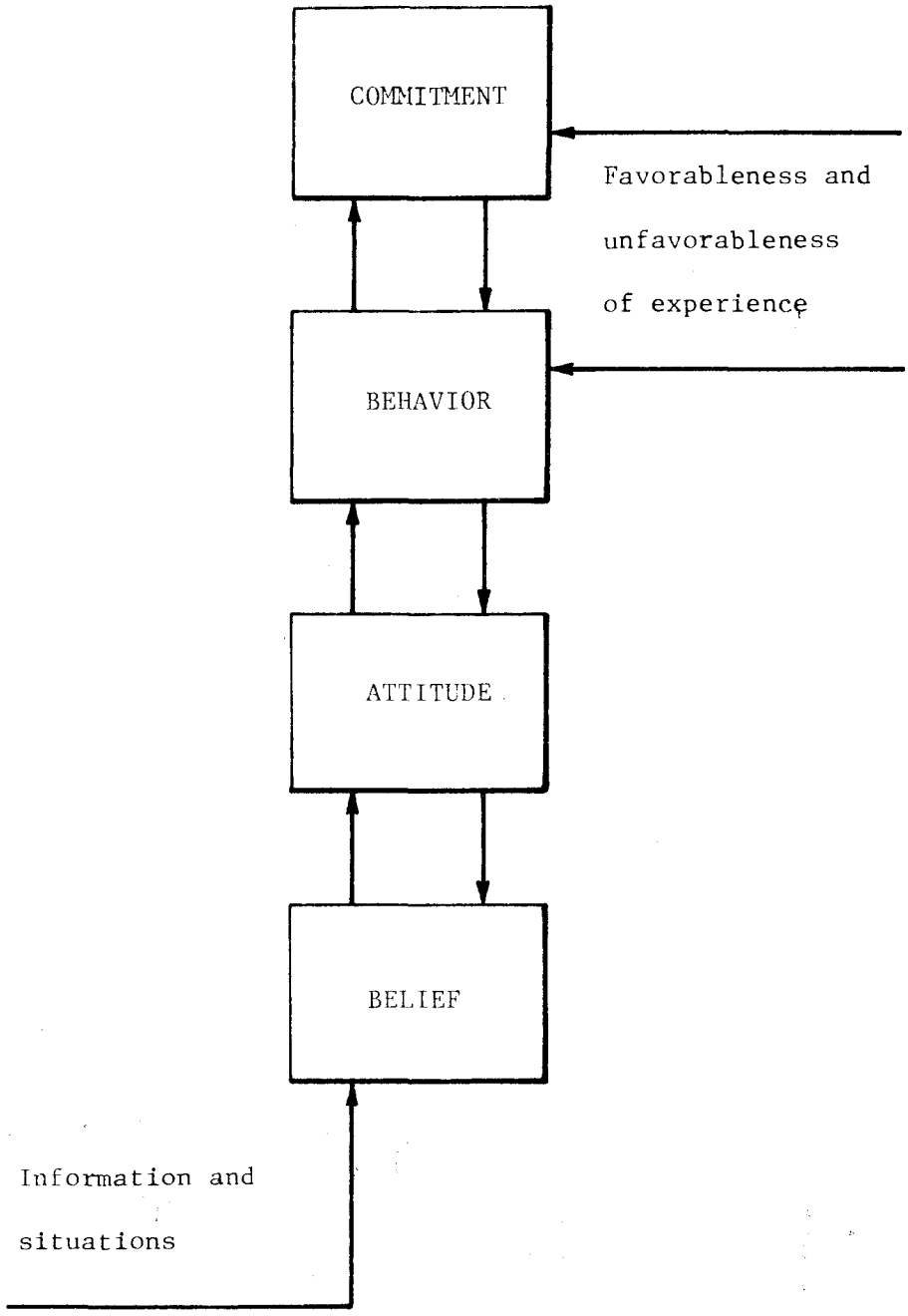

Figure 2: The Relationships of Belief, Attitude, Behavior, and Commitment.

Review of Selected Studies of Belief, Attitude, Behavior, and Commitment

To examine the relationships of knowledge, attitude, and professional commitment, George (1973) examined the relationships of cognition, attitude, and commitment that existed among 77 professional staff members from six school districts. Each participant was employed as a supervisor, a visiting teacher, a counselor, a coeducational diagnostician, or a psychologist. George found that relationships among cognition, attitude, and commitment were identified; the anticipated pattern of progressively higher levels as a function of more experience was not generally substantiated. The results suggested the need to design staff development programs to influence cognition, attitude, and commitment.

The Meis (1967) study was concerned with knowledge, attitude, and professional commitment to teaching disadvantaged students. Meis' major emphasis was to explore the attitudes of home economics teachers toward people of diverse backgrounds and to relate these attitudes to their knowledge of disadvantaged persons and their professional commitment. The findings indicated that teachers whose attitudes were identified as more accepting of people with diverse backgrounds were distinguished from those with less-accepting attitudes by the degree of their commitment to teaching. Variables such as knowledge of disadvantaged, years of teaching, and professional experiences did not differentiate between teachers with accepting and less-accepting attitudes toward the disadvantaged. Meis concluded that a teacher who has an attitudinal commitment to a situation will do whatever is called for in terms of teaching practices; therefore, the more-accepting teachers as identified

in the study are likely to exhibit desirable teaching behaviors in working with the disadvantaged students.

In various research investigating the relationship of attitude and professional commitment, professional commitment was shown by some investigators to be a predictor of attitude (e.g., Bengel, 1968); some showed that attitude is a predictor of professional commitment (e.g., Huang, 1976); and still others showed no relationship between attitude and professional commitment (e.g., Kramer, 1966). Bengel's (1968) study explored secondary teachers' attitudes toward research in relation to their degree of professional commitment. She considered attitude toward research as awareness and understanding, applying the results, and initiating research. The Teacher's Attitude Toward Research (Bengel) and the Measure of Professional Commitment (Loftis's MOPC) were used to collect data from 323 secondary teachers. Only the upper- and lower-quartile MOPC scores were chosen for the study. The significance of the finding appears that professional commitment is a more pervasive as well as a more powerful variable for predicting attitudes toward research than the personal background variables explored.

Huang (1976) studied professional attitudes and commitment as indicators of home economists' employment satisfaction. A national sample of 450 AHEA active members was surveyed. The findings were that (1) employment satisfaction was positively correlated with professional attitudes, but was negatively correlated with commitment; and (2) professional attitudes uniquely contributed to, while commitment partly contributed to, the variance of employment satisfaction. Such results, as Huang mentioned, call for further study to explore the plausible

explanations for the negative correlation between employment satisfaction and commitment. Also, action and experimental research is needed to develop means that can cultivate positive attitudes during the preparation of home economics professionals.

Kramer (1966) investigated the effect of the attitudes of prospective teachers on insight and commitment which might be due to differences between positive and negative attitudes toward children and teaching. The study produced no evidence of relationship between attitudes (as measured by the Minnesota Teacher Attitude Inventory) and insight/commitment as measured by an interview schedule. He claimed that an open-end interview schedule may have resulted in such findings.

Professional commitment is related positively to role perception also. In a study of professional commitment and role perceptions, Adams (1968) proposed the general hypothesis that more- and less-committed home economics supervising teachers will differ significantly in their perceptions of their supervisory role. However, in a study of professional commitment, role perception, and rated effectiveness of cooperating home economics teachers (Martin, 1973), no significant relationship between the effectiveness of cooperating teachers as rated by teacher educators and cooperating teachers' self-assessment of role perception and professional commitment was evident. Martin also found that cooperating teachers' self-assessments of professional commitment and role perception were not related.

Many efforts have been made to identify variables that could be predictors of professional commitment. Loftis (1962) attempted to identify commitment to profession in behavioral terms and to determine

Pennsylvania secondary school teachers' degree of commitment related to various demographic characteristics. Furthermore, as a result of the study, a self-report measure of professional commitment (MOPC) containing 100 items with 0.92 reliability was developed. (Loftis, 1972, has revised MOPC to 20 items; both forms have been used frequently by later investigators.) Her findings are (1) a positive relationship between teachers' professional commitment scores and their job satisfaction scores; (2) teachers' levels of commitment are independent of sex, age, marital status, educational level, and length of teaching experience; and (3) teachers' perceptions of their commitment and of their job satisfaction are consistent. From the literature review, Loftis's MOPC has proved to be a valid measure which has had favorable use up to the present.

Anthony (1971) studied factors related to a measure of professional commitment among home economics teachers in upstate New York. The major purpose was to examine selected experimental, personal, and professional characteristics of teachers and how they related to professional commitment and job satisfaction. Loftis's Measure of Professional Commitment (MOPC), Hoppock's Job Satisfaction Scale, and a personal data form were used with a stratified random sample of 246 public secondary school home economics teachers. Three conclusions of the study relate to professional commitment: (1) Degree of professional commitment was found to be dependent on a number of specific personal, professional, and educational characteristics. Variables suggested that "teachers who plan and execute a continuous program of self-education either by moving on to graduate school or by belonging to and participating in meetings

of professional organizations represent a higher level of commitment (Anthony, 1971, p. 1342A). A teacher's self-concept and perception may have considerable effect on commitment. The dimensions of the familial relationship included marital status, husband's occupation, and source of financial help, and appeared to contribute to commitment. (2) Both professional commitment and job satisfaction were primarily two-dimensional, focusing upon personal characteristics of teachers and on their training. (3) Some variables appeared to interact in influencing professional commitment in operating independently. Furthermore, those persons identified by high MOPC scores became committed to home economics as a profession.

Research appears to support some behaviors as predictors of commitment. Youngner's (1977) research studied the professional commitment of 203 Georgia home economics teachers, by using an adaptation of Loftis' MOPC and its relationship to seven selected activities: (1) membership in professional organizations; (2) offices held in professional organizations; (3) professional journals read regularly; (4) noncredit classes taken; (5) home visits made in excess of requirements; (6) honor roll achievement by the Future Homemakers of America chapter, and (7) supervision of student teachers. The lower 25 percent (n=51) of total commitment scores were operationally defined as the least committed, and the upper 25 percent (n=51) as the most committed; the means of the two groups were tested for significance with respect to those seven activities. None of the seven activities could be used as predictors of professional commitment among the finite population identified in this study. When generalizing to an

indefinitely large population, professional commitment scores could be predicted by the professional journals read regularly, and by the offices held in professional organizations.

In summary, there are no studies concerning the relationships of quality-of-life beliefs, attitudes, and professional commitments in the field of population education. Various demographic variables such as age, sex, level of education, major area, marital status, major responsibility, etc. are investigated as predictors of attitude and professional commitment. Some studies have shown these variables to be independent, but other studies have found them to be dependent. Furthermore, job satisfaction, job effectiveness, and role perception were also found to be the predictive variables in some studies and not predictive in others. Moreover, journals read regularly, offices held, and number of memberships in professional organizations seem to show high professional commitment to the field.

CHAPTER 3

RESEARCH DESIGN

The major purpose of this study was to investigate the relationships that exist among attitudes toward population education, quality-of-life beliefs, and professional commitments to population education of Thai home economics teacher educators in the Teacher Training Department, Ministry of Education, Thailand. The relationships of those three major variables as associated with selected demographic variables -- population-education/family-planning experience in workshops/seminars, family size, specialized area, years of teaching, and age -- were examined also. It is hoped that the results of this research study will provide baseline data and information for policy makers in determining the content, organization, and strategies for positive changes in beliefs, attitudes, and behavioral commitments toward population education. The final desired outcome of this study is the improvement of the quality of home economics personnel for infusing population education into the home economics curricula of teachers colleges in Thailand.

Objectives

The two major research objectives of this study were as follows:

1. To examine the relationships that exist among quality-of-life beliefs, attitudes toward population education, and professional commitments to population education of Thai home economics teacher educators.

2. To determine the effect of selective demographic variables -- population-education/family-planning experience in workshops and/or seminars, family size, specialized area, years of teaching, and age -- on each of the three major variables.

Figure 3 is a graphic representation of the projected relationships among variables of the study.

Hypotheses

The following eight hypotheses were developed from the above two major objectives.

1. There will be no statistically significant relationship between scores on Attitudes Toward Population Education and Quality-of-Life Beliefs.

2. There will be no statistically significant relationship between scores on Attitudes Toward Population Education and Professional Commitments.

3. There will be no statistically significant relationship between scores on Quality-of-Life Beliefs and Professional Commitments.

4. There will be no statistically significant relationships between age and scores on Quality-of-Life Beliefs, Attitudes Toward Population Education, and Professional Commitments.

5. There will be no statistically significant differences among the mean scores of Thai home economics teacher educators with different amounts of workshop/seminar experience on Quality-of-Life Beliefs, Attitudes Toward Population Education, and Professional Commitments.

6. There will be no statistically significant differences among the mean scores of Thai home economics teacher educators with different family size on Quality-of-Life Beliefs, Attitudes Toward Population Education, and Professional Commitments.

7. There will be no statistically significant differences among the mean scores of Thai home economics teacher educators selected from specialized areas of Home

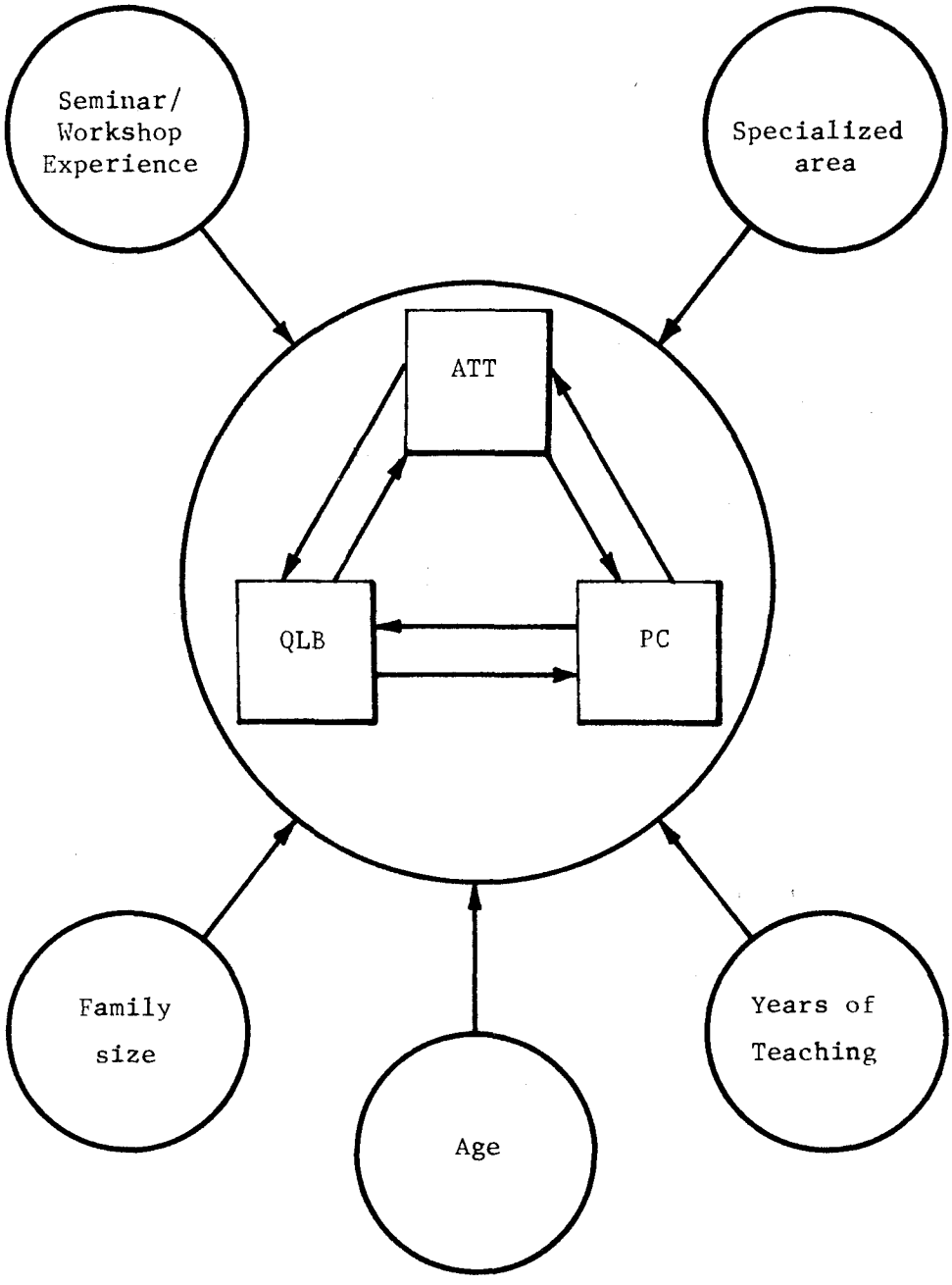

Figure 3: Projected Relationships Between the Variables of the Study.

Economics on Quality-of-Life Beliefs, Attitudes Toward Population Education, and Professional Commitments.

8. There will be no statistically significant differences among the mean scores of Thai home economics teacher educators who differ in number of years of teaching on Quality-of-Life Beliefs, Attitudes Toward Population Education, and Professional Commitments.

Population

The population for this study consisted of Thai home economics teacher educators from seven of the 36 teachers colleges: (1) Ban Somdej Chao Phya, (2) Chankasem, (3) Dhonburi, (4) Pranakorn, (5) Petchburi Widhyalongkorn, (6) Suan Dusit, and (7) Suan Sunandha. It was assumed that those home economics teacher educators in the seven teachers colleges would represent a variety of demographic characteristics and would, therefore, be somewhat representative of the total population.

Procedure

The data for this study were collected by a questionnaire between June and early July of 1980 from home economics teacher educators identified by the Supervisory Unit of the Teacher Training Department. Letters (see Appendix A) were sent to the presidents of the seven teachers colleges to explain the purpose of the study, to request cooperation, to introduce the major research coordinator, and to request that consultation be made with the coordinator for the highest and most effective return rate possible.

With the consent of the college presidents, the total population of 72 home economics teacher educators from the seven teachers colleges

within Bangkok-Dhonburi received and returned the questionnaire packets. Each packet consisted of (1) Attitudes Toward Population Education Scale (ATT), (2) Quality-of-Life Beliefs Scale (QLB), (3) Professional Commitments Scale (PC), and (4) Information Data (ID), including a cover letter describing the importance of the study and requesting the participation of the teacher educators (Appendix A).

The respondents were given about one week to complete the questionnaire; the research coordinators in Thailand were to hand them out and pick them up in person. Follow-up contacts were carried out with those failing to respond in order to obtain the maximum number of responses.

Of the three research coordinators, one had a doctoral degree, one had a master's degree, and one was an undergraduate student. Planning for three coordinators with different education levels was done to insure a high rate of return. All questionnaires were first delivered to teacher educators by the major research coordinator who held the doctorate degree, so as to ascertain that the purposes and instructions were clear to administrators and individual teacher educators. After questionnaires were answered, all three coordinators then helped to pick them up. In order to insure the most accuracy, and also to make it easier and less time-consuming for answering and analysis, the questionnaires were designed so as to enable the transfer of data to The Pennsylvania State University computer answer sheets by the major research coordinator.

Instruments

Three measures were used for this study, excluding the Information Data (ID): (1) the researcher's Attitudes Toward Population Education Scale (ATT); (2) Wallace's Quality-of-Life Beliefs scale (QLB); and (3) the Professional Commitments scale (PC), revised by the researcher from Loftis' Professional Rating Scale.

Attitudes Toward Population Education Scale (ATT)

Tables of specifications (Appendix C) for the population concepts (Table 15) and the education concepts (Table 16) were established to ensure the content validity of the attitude measure. The population concepts, suggested by UNESCO (1978, p. 64), are (1) the population situation at micro- and macro-levels, (2) the individual and population quality-of-life concerns, and (3) the action programs. Each concept contains various components. The first concept deals with size, growth, distribution, migration, composition, and trends concerning population, including folk demographies. The second concept includes food, health, education, employment, urbanization, environment, socioeconomic development, and the political system. The third concept includes public policies and national programs, and individual and family choices. The first two concepts represent knowledge and the third concept represents behavior.

In planning and processing any educational program, the following are important concepts -- problems, objectives, philosophies of education, theories of learning, audience, personnel and resources, contents and concepts, organization of contents, teaching/learning

strategies, evaluation and feedback, revision and reorganization of the total educational system, and planning for population education and decision-making (Tyler, 1950; Ray, 1968; UNESCO, 1978). Skill in problem identification is necessary so that the effective strategies for problem-solving can be established (UNESCO, 1978, p. 67). Tyler (1950) classified three sources of tentative objectives: the learners, contemporary life and society, and the subject-matter specialists. Screening by philosophies and theories of learning will derive the final objectives. The audiences' levels of maturation and their stages of development (Havinghurst, 1952) are as important as their needs, interests, aptitudes, and concerns (Ray, 1968). These elements must be analyzed so that the contents and the organization of the contents, including strategies in the teaching/learning process, are valuable. To improve and enrich the educational programs, periodic formative and summative evaluations should be consistent for the organization of the total educational system (Ray, 1968; UNESCO, 1978). A table of specifications for the above education concepts was used as a guide to construct the Education Attitudes Subscale (E-ATT).

Attitude is something inside a person's mind and is not observable. Thus, in order to measure it, the internal attitudes must be translated into external beliefs and behaviors (Zimbardo et al., 1977, p. 213; Simonson, 1979, p. 35). According to Fishbein and Ajzen (1975):

> A person's attitude toward some object is related to the set of his beliefs about the object, but not necessarily to any specific belief. In a similar fashion, attitude toward an object is viewed as related to the person's intentions to perform a variety of behaviors with respect to that object. (p. 14)

Furthermore, Fishbein and Ajzen (1975) and Thurstone (1929) stated that the major characteristics of attitude are evaluative or affective. Therefore, the research questions constructed must represent a set of beliefs and a variety of behaviors in terms of their evaluative and affective nature, with a procedure of locating "the subject on a bipolar affective or evaluative dimensions vis-a-vis a given object" (Fishbein and Ajzen, 1975, p. 11). This is presented in Tables 14 and 15, where each attitude item may more or less represent the various components (see Appendix C).

To measure the favorableness or unfavorableness toward the object and situation in question, four major techniques could be employed -- Osgood's, Guttman's, Thurstone's, or Likert's (Zimbardo et al., 1977, pp. 213-220). This researcher selected the Likert scale since it can be used as "an equally reliable attitude scale with relative ease" (Zimbardo and Ebbesen, 1969, p. 125), and it is also less time-consuming. Likert's (1932) method of summated ratings is used to measure by asking respondents to indicate the extent of their agreement or disagreement with each item on a continuum scale of response (e.g., five-point scale). A person's attitude score is the sum of his individual ratings (Simonson, 1979; Selltiz et al., 1976). This researcher was aware of the limitations of the Likert scale. One limitation is that it is unable to indicate how close or how far apart different attitudes might be; however, it can provide information on the ordering of respondents' attitudes on a continuum. Therefore, by assigning from low score to high score for the least favorable to the most favorable for an individual statement, then summing for the total

of statement scores, it is possible to differentiate among the respondents' attitudes.

Concerning the organization of the items in the Likert scale, some respondents have the tendency to agree (overrater error), to disagree (underrater error), or to answer towards the middle of the scale (central tendency error), regardless of the content (Cronbach, 1950; Couch and Kineston, 1960; Jackson and Messick, 1961). To overcome the problems of this acquiescence response set, a mixture of positive statements (favorable) and negative statements (unfavorable) were constructed. Therefore, the ATT statements are not organized in any particular pattern, neither among positive and negative statements, nor among Population Attitudes (P-ATT) and Education Attitudes (E-ATT) statements. The arrangement used in this study, including the scoring procedure, can be found in Appendix B.

Pilot tests were conducted both in English and in Thai to test the reliability of the ATT scale. The pilot test was composed of two forms (Form A and Form B) with parallel contents of the same Likert scale with five responses. Each form contained 60 items, for a total of 120 items. The results of the pilot test and item analysis were determined from the responses of 26 graduate students (n=19) and faculty (n=7) of the Home Economics Department (HEED) of The Pennsylvania State University. The Thai version of this ATT scale was tested at Penn State by 37 Thai graduate (n=36) and undergraduate students (n=1) with a variety of majors (THAI ST.) to insure readability and efficiency of administration of the questionnaire. The best 40 statements were finally selected and again tested for reliability. These consisted of

20 items of population attitudes and 20 items of education attitudes (28 positive statements and 12 negative statements). An elimination of the items with little discrimination value, with very low correlation with the overall scores, or with answers which disagreed with those of the experts were made. The alpha reliability coefficient of PE-ATT for HEED was 0.931 (P-ATT = 0.873, E-ATT = 0.881), and for THAI ST. was 0.714 (P-ATT = 0.458, E-ATT = 0.742) (see Table 4, p. 77). With careful construction based on essential characteristics of testing instruments in mind, both subscales (P-ATT and E-ATT) of the Attitudes Toward Population Education Scale (ATT) appeared to be valid, reliable, relevant, and sensitive. Tables 17 and 18, Appendix D, present statistical information about the ATT items.

The Quality-of-Life Beliefs Scale (QLB)

The Quality-of-Life Beliefs Scale (QLB) revised for this study was originally developed in 1974 by Wallace (1974) to identify quality-of-life indicators of home economists in developing countries. She developed parallel forms (Form A and Form B), with each scale having 50 items. In 1975, Wallace revised the original 50-item scale to the more reliable 40-item scale, which contained four possible responses (strongly agree, agree, disagree, and strongly disagree). The total range of possible scores that could be attained for each of both forms was 40-160. The reliability was determined to be 0.88 on scores ranging from 51 to 158 for Form A, as compared to 0.89 on scores ranging from 16 to 160 for Form B. Form B was selected for this study because it has a slightly higher reliability and wider range of scores.

This researcher was aware of the possibility of a lower reliability as a result of revising the original test. Therefore, only necessary and minimal changes have been made in the scale. It was decided that revisions concerning a balance of positive and negative statements to overcome acquiescent response sets would not be made. The revision of QLB, made by this researcher for the purpose of this study, was to add the "undecided choice" in order to avoid the "forced" choice, and to allow some respondents to express their "real" quality-of-life beliefs.

Thus, with the permission of Wallace, this researcher altered the QLB from a 40-item Likert scale, with answers ranging from 1 to 4 (1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree) to one with answers ranging from 1 to 5 (1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree), depending on the degree of agreement.

In addition, a few words had to be changed in order to make the statements clearer to the respondents when the questionnaire was translated into Thai language. A pilot test was used with 37 Thai students (n=37) of various majors at The Pennsylvania State University (THAI ST.). The reliability was 0.886 with a range of 132 to 191 (see Table 5, p. 79). The higher the score, the more positive the quality-of-life beliefs of the respondent. Table 19, Appendix D, presents statistical information about QLB items.

Professional Commitments Scale (PC)

The Professional Commitments Scale (PC) investigated Thai home economics teacher educators' commitments to population education. With

Loftis's permission, every statement of the 20-item true-false Professional Rating Scale was revised, but the main concepts were retained. A value of five points, instead of the original one point, was assigned for each item. The intent was to make the highest possible score of PC (= 100) not much smaller than the other two measures (ATT = 200, and QLB = 200). Thus, with each scale item worth five points, the possible total score ranged from 0 to 100 points.

The Measure of Professional Commitment (MOPC) originally was developed in 1962 to measure the secondary school teachers' commitment in behavioral terms. It originally contained 100 items; the reliability coefficient was 0.92 when determined by the Spearman-Brown Prophecy formula. In 1972, Loftis revised it to a 20-item true-false scale, with a 0.91 reliability coefficient. Several investigators (Bengel, 1968; Anthony, 1971; Youngner, 1977) found Loftis's scales to be valid.

This researcher administered a pilot test to 37 Thai students (n=37) of various majors at The Pennsylvania State University (THAI ST.). When the questionnaire was translated into Thai and the Kuder-Richardson formula 20 (K-R 20) was applied, the reliability coefficient of PC was 0.803. The total scores ranged from 20 to 100 (see Table 6, p. 81). The higher the score on PC, the more the commitment of the teacher educator to the profession. Table 20, Appendix D, presents statistical information about PC items.

Information Data (ID)

The following demographic characteristics were identified for each respondent: name of the institution, sex, age, marital status, number

of children, level of education, years of teaching, area of specialization, primary responsibilities, and experience in population-education/family-planning workshops and/or seminars (Appendix A).

Statistical Analysis Procedure

Various library statistical package programs of The Pennsylvania State University were used for the statistical analysis in this study. The library programs used were LIKRT, TESSIA, FRANM, PPMCR, ANOVES/ANOVUM, and FOLUP.

The data recorded for each respondent consists of background Information Data (ID) and item responses to each of the three research instruments: (1) the Attitudes Toward Population Education Scale (ATT), (2) the Quality-of-Life Beliefs Scale (QLB), and (3) the Professional Commitments Scale (PC). The items within each of these scales were regarded as comprising subscales. Each subscale attempted to assess a different attribute. The three instruments together are capable of assessing the total individual teacher educator. The reliability and internal consistency of each of the subscales were evaluated via an item analysis. An overall ATT score and an overall QLB score were obtained by summing the Likert scores over the 40 items in the respective questionnaires. An overall PC score was obtained by multiplying the number of "true" responses on the 20 items of the Professional Commitments Scale by a factor of 5. It follows that ATT and QLB may vary between 40 and 200, while PC may vary between 0 and 100.

LIKRT (Likert Attitude Scale Analysis Main Program) was employed to calculate the ATT and QLB scores, a total score for each respondent for each subscale, an item analysis, Kuder-Richardson Reliability coefficients, means, standard deviations, ranges, and standard errors of the means and measurements. TESSIA (Total Test Scoring and Item Analysis) presented similar data on PC. FRANM (Frequency Analysis of Multiple Choices) was used for the frequency analysis for all the ID, except the population-education/family-planning experiences in workshops/seminars, which were weighted by TESSIA.

Concerning the first research objective (Hypotheses 1 through 4), PPMCR (Pearson Product Moment Correlation Coefficient) was used to investigate the relationships among ATT, P-ATT, E-ATT, QLB, PC, and Age of Thai home economics teacher educators.

The second research objective (Hypotheses 5 through 8) was tested statistically with ANOVES/ANOVUM (Analysis of Variance) to determine the effects of population-education/family-planning experience in workshops/seminars, family size, specialized area, and years of teaching on each of the three major dependent variables -- ATT (PE-ATT, P-ATT, E-ATT), QLB, and PC. FOLUP (TUKEY WSD method) was used to follow up significant ANOVES results. The statistical analysis procedures are summarized in Table 1.

Table 1

Summary of Statistical Analysis

ANALYSES	VARIABLES	STATISTICAL PROCEDURES
Frequency of population	ID A weight workshop experience	FRANM TESSIA
Instruments	ATT*, QLB PC	LIKRT TESSIA
Hypothesis 1	ATT and QLB	PPMCR
Hypothesis 2	ATT and PC	PPMCR
Hypothesis 3	QLB and PC	PPMCR
Hypothesis 4	Age and ATT, QLB, PC	PPMCR
Hypothesis 5	ATT, QLB, PC and 3 groups of workshop experience (High, Medium, Low)	ANOVES/ANOVUM and FOLUP (WSD)
Hypothesis 6	ATT, QLB, PC and 4 groups of family size (None, One, Two, 3 and 4 children)	ANOVES/ANOVUM and FOLUP (WSD)
Hypothesis 7	ATT, QLB, PC and 6 specialized areas (CLTX, FN, HM & HD, CDFR, ART, HEED)	ANOVES/ANOVUM and FOLUP (WSD)
Hypothesis 8	ATT, QLB, PC and 4 groups of years of teaching (0-5, 6-10, 11-15, 16 or more years)	ANOVES/ANOVUM and FOLUP (WSD)

*ATT = PE-ATT, P-ATT, E-ATT.

CHAPTER 4

DATA ANALYSIS

The major purpose of this study was to investigate the relationships of quality-of-life beliefs, attitudes toward population education, and professional commitments to population education of Thai home economics teacher educators. In addition, the relationships of selected demographic data to those three major variables -- beliefs, attitudes, and commitments -- were examined.

Description of the Population

The population of this study consisted of all Thai home economics teacher educators (n=72) of the seven teachers colleges within Bangkok-Dhonburi, under the responsibility of the Teacher Training Department, Thai Ministry of Education. Each of these 72 teacher educators received a questionnaire packet in person from the major coordinator of the three-person task force, formed for this research study, in Thailand. After the respondents returned the completed questionnaire packets to the task force members, the data were transferred by the task force director to computer answer sheets of The Pennsylvania State University, then mailed to the United States.

As can be seen in Table 2, from the total population of 72 teacher educators who received the questionnaire, 64 (88.89 percent) responses were received and usable and four were too late to be analyzed, for a combined response of 68 (94.44 percent).

Table 2

Total Population and Distribution of Responses to the Questionnaire

NO.	TEACHERS COLLEGES	TEACHER EDUCATORS	RETURNED RESPONDENTS #	RETURNED RESPONDENTS % (from school)	RETURNED RESPONDENTS % (from total)
1.	Ban Somdej Chao Phya	4	4	100	6.25
2.	Chankasem	11	9	81.82	14.06
3.	Dhonburi	8	8	100	12.50
4.	Pranakorn	10	10	100	15.63
5.	Pretchaburi Widhyalongkorn	9	9	100	14.06
6.	Suan Dusit	19	14	73.68	21.88
7.	Suan Sunandha	11	10	90.91	15.62
	Total	72	64	88.89	100.00

Of the seven teacher colleges, four (Ban Somdej Chao Phya, Dhonburi, Pranakorn, and Pretchaburi Widhyalongkorn) had a 100 percent response (4, 8, 10, and 9 teacher educators, respectively). The lowest percentage response (14, or 73.68 percent) was from Suan Dusit, which had the largest number of home economics teacher educators (19) of any of the colleges.

Table 3 summarizes the demographic distribution of the responses. Of the 64 respondents, all were female and none were under 25 years of age. The youngest age was 28 years, the oldest was 54 years, and more than half of them (34, or 53.13 percent) were between 31 and 40 years old.

Fifty-four respondents (84.38 percent) were married. None were divorced, separated, or widowed. Three-fourths of the respondents (n=48) had no more than two children. The highest percentage (more than one third) had two children. Four respondents' (6.25 percent) families were largest, with four children each.

Almost all (n=60, 93.75 percent) held the bachelor's degree. None had earned master's or doctoral degrees. Almost half (27, or 42.19 percent) of the teacher educators had taught for 6 to 10 years. All 64 teacher educators had "teaching and training" as their primary responsibility, except for one who was identified as an administrator. None declared research or service as a responsibility.

Three specialized areas reported by high numbers of the respondents were 15 (23.44 percent) in Food and Nutrition, 12 (18.75 percent) in Child Development and Family Relations, and 10 (15.6 percent) in Housing and Home Decorating. The lowest number (4, or 6.25 percent) were those in the Home Management and Consumer Education area.

Table 3

Demographic Distribution of the Respondents

NO.	VARIABLES	RESPONSES #	RESPONSES %
1.	Sex		
	Male	0	0.00
	Female	64	100.00
		64	100.00
2.	Age		
	Under 25	0	0.00
	26 - 30	10	15.62
	31 - 35	18	28.13
	36 - 40	16	25.00
	41 - 45	13	20.31
	46 - 50	6	9.38
	51 - 55	1	1.56
	Over 55	0	0.00
		64	100.00
3.	Marital Status		
	Single	10	15.62
	Married	54	84.38
	Divorced	0	0.00
	Separated	0	0.00
	Widowed	0	0.00
		64	100.00
4.	Number of Children		
	None	11	17.19
	One	13	20.31
	Two	24	37.50
	Three	12	18.75
	Four	4	6.25
	Five or more	0	0.00
		64	100.00
5.	Level of Education		
	Below baccalaureate	3	4.69
	Baccalaureate	60	93.75
	Post-baccalaureate	0	0.00
	Master's and higher	0	0.00
	Doctorate	0	0.00
	No answer	1	1.56
		64	100.00

Table 3 (continued)

NO.	VARIABLES	RESPONSES #	RESPONSES %
6.	Years of Teaching		
	0 - 5 years	7	10.94
	6 - 10 years	27	42.19
	11 - 15 years	19	29.69
	16 - 20 years	8	12.50
	Over 20 years	3	4.68
		64	100.00
7.	Specialized Areas		
	Clothing and Textiles (CLTX)	8	12.50
	Food and Nutrition (FN)	15	23.44
	Home Management and Consumer Education (HM)	4	6.25
	Housing and Home Decorating (HD)	10	15.60
	Child Development and Family Relations (CDFR)	12	18.75
	Arts and Flower Arrangement (ART)	7	10.95
	Home Economics Education (HEED)	7	10.95
	Answered Incorrectly	1	1.56
		64	100.00
8.	Primary Responsibility		
	Administration	1	1.56
	Research	0	0.00
	Service	0	0.00
	Teaching or Training	63	98.44
		64	100.00
9.	Population-Education/Family-Planning Experience in Workshops/Seminars		
	Yes	61	95.31
	No	3	4.69
		64	100.00
9.1	3 Days and Less		
	None	18	28.13
	One Time	0	0.00
	Two Times	12	18.75
	Three Times	31	48.44
	Four Times	2	3.12
	Five Times	1	1.56
		64	100.00

Table 3 (continued)

NO.	VARIABLES	RESPONSES #	RESPONSES %
9.2	1 Week and More Than 3 Days		
	None	21	32.81
	One Time	3	4.69
	Two Times	26	40.63
	Three Times	11	17.19
	Four Times	2	3.12
	Five Times	1	1.56
		64	100.00
9.3	1 Month and More Than 1 Week		
	None	28	43.75
	One Time	4	6.25
	Two Times	24	37.50
	Three Times	6	9.38
	Four Times	1	1.56
	Five Times	1	1.56
		64	100.00
9.4	More Than 1 Month		
	None	43	67.19
	One Time	11	17.19
	Two Times	7	10.94
	Three Times	2	3.12
	Four Times	0	0.00
	Five Times	1	1.56
		64	100.00

For population-education/family-planning experience, the overall report of respondents showed that Thai home economics teacher educators (61, or 95.31 percent) had considerable experience in population-education/family-planning ranging up to more than one month, with varying times. Most of the respondents attended more than one type of workshops/seminars, as well as more than one time for each type.

Among the 64 respondents, 46 (71.87 percent) had three days or less experience with workshops/seminars; 43 (67.19 percent) had this experience for more than three days up to one week; 36 (56.25 percent) had this experience from one week to one month; and 21 (32.81 percent) had this experience for more than one month.

It is worth noting here that the above experiences were not limited to the workshops and/or seminars was arranged by the Supervising Unit of the Department of Teacher Training. In fact, experience in population-education/family-planning workshops and/or seminars were arranged and funded periodically by the international organizations and local organizations (e.g., American Home Economics Association, UNESCO, and Planned Parenthood Association of Thailand) with the approval of the Teacher Training Department.

Results of Pilot Testing and Population Measurement

The three measures that were used in this study were the Attitudes Toward Population Education Scale (ATT), Quality-of-Life Beliefs Scale (QLB), and Professional Commitments Scale (PC). The ATT yields a Population/Education Attitudes total score (PE-ATT) and two subscores -- Population Attitudes subscore (P-ATT), and Education Attitudes score

(E-ATT). Each of the measures was subjected to item analysis to determine the reliability and internal consistency. A number of methods may be used to assess the internal consistency of these measures; the most widely used methods are Kuder-Richardson formula 20 (K-R 20) and coefficient alpha. For this study, coefficient alpha reliabilities were computed for PE-ATT, P-ATT, E-ATT, and QLB. For PC, K-R 20 reliabilities were computed.

Attitudes Toward Population Education Characteristics (ATT)

A summary of the results of the ATT scale is presented in Table 4. (Tables 16 and 17, Appendix D, present statistical information about the ATT items.) This table summarizes the total scale and two subscales (PE-ATT, P-ATT, E-ATT) for the two pilot tests (HEED and THAI ST.) and the population measure of Thai home economics teacher educators (T.T.ED.).

The reliability for the population group (T.T.ED.) was 0.763, with a mean score of 134.453 and a range of 52 (114 to 165). The standard deviation was 11.505, and the standard error of measurement was 5.596. In comparison to the two pilot tests, T.T.ED. had the lowest mean score. The reliability of T.T.ED. was moderate (0.763) as compared with the reliability of HEED (0.931) yet was only slightly higher than THAI ST. (0.714).

For the P-ATT subscale results, the reliability of T.T.ED. was 0.694, with a mean score of 62.750 and a range of 29 (53 to 81). The standard deviation was 7.189 and the standard error of measurement was 3.975. A comparison to the two pilot tests showed that T.T.ED. had

Table 4

Statistical Summary Table of Attitudes Toward Population on Education (ATT),Total Scale

ATTITUDES SCALES AND SUBSCALES	ITEM	N	MEAN	STANDARD DEVIATION	RANGE*	STANDARD ERROR OF MEASUREMENT	COEFFICIENT ALPHA
POPULATION EDUCATION ATTITUDES (PE-ATT)							
Pilot Test 1	40	26	163.192	16.457	63	4.321	0.931
Pilot Test 2	40	37	146.378	10.487	50	5.613	0.714
Population	40	64	134.453	11.505	52(114-165)	5.596	0.763
POPULATION ATTITUDES SUBSCALE (P-ATT)							
Pilot Test 1	20	26	82.346	8.602	36	3.070	0.873
Pilot Test 2	20	37	73.865	5.748	36	4.233	0.458
Population	20	64	62.750	7.189	29(53-81)	3.975	0.694
EDUCATION ATTITUDES SUBSCALE (E-ATT)							
Pilot Test 1	20	26	80.846	8.690	37	2.999	0.881
Pilot Test 2	20	37	72.514	7.085	37	3.595	0.742
Population	20	64	71.703	5.811	29(61-89)	3.914	0.546

*The possible ranges of scores are 40-200 for the total scale and 20-100 for the subscales.
Pilot Test 1--administered to graduate students (n=19) and faculties (n=7) of Home Economics Education at Penn State (HEED).
Pilot Test 2--administered to Thai graduate students in all majors at Penn State (THAI ST.) (Thai version).
Population--administered to Thai home economics teacher educators (T.T.ED.) (Thai version).

moderate reliability, the lowest mean score, and the smallest range width.

For the E-ATT subscale, the reliability of T.T.ED. was 0.546, with a mean score of 71.703, and a range of 29 (61 to 89). The standard deviation was 5.811, and the standard error of measurement was 3.914. In comparison to the two pilot tests, T.T.ED. also had the lowest mean score with the smallest standard deviation and the smallest range width. The reliability of T.T.ED. was the lowest (0.546), as compared with HEED (0.881), and THAI ST. (0.742).

In conclusion, the reliability of PE-ATT (0.763) measurement was acceptable. Since the possibility of a total score was 200, the mean score of the T.T.ED. group is approximately 67 percent of the total score, which indicated slightly positive attitudes toward population education. The total scale mean score was about 73 percent for THAI ST., and about 81 percent for the HEED group. Considering P-ATT and E-ATT of T.T.ED., the reliabilities were relatively low (0.694 and 0.546, respectively). The mean score of the P-ATT was about 62 percent of the total score and the mean score of the E-ATT was about 71 percent of the total score.

Quality-of-Life Beliefs Characteristics (QLB)

Reliability of the QLB test administered to T.T.ED. was 0.81 with a mean score of 154.734 and a total range width of 53 (137 to 189) (Table 5). The standard deviation and the standard error of measurement were 12.162 and 5.304, respectively. In comparison to the pilot test with THAI ST., there was a slight difference among the mean scores, the range

Table 5

Statistical Summary Table of Quality-of-Life Beliefs Scale (QLB)

QUALITY-OF-LIFE BELIEFS	ITEM	N	MEAN	STANDARD DEVIATION	RANGE*	STANDARD ERROR OF MEASUREMENT	COEFFICIENT ALPHA
Pilot Test 1	-	-	-	-	-	-	-
Pilot Test 2	40	37	158.811	12.346	59(132-191)	4.282	0.866
Population	40	64	154.734	12.162	53(137-189)	5.304	0.810

*The possible range of scores is 40-200.
Pilot Test 1--not administered since the reliability was already available.
Pilot Test 2--administered to Thai graduate students of all majors at Penn State (THAI ST.) (Thai version).
Population--administered to Thai home economics teacher educators (T.T.ED.) (Thai version).

of scores, and the reliability (T.T.ED. = 0.810, THAI ST. = 0.886). The original QLB reliability reported by Wallace (1974) was 0.89. Therefore, these test results indicated that the QLB scale has an acceptable reliability which contains stability, equivalence, and homogeneity characteristics. (Table 18, Appendix D, presents statistical information about QLB items.)

Professional Commitments Characteristics (PC)

The PC scale analysis results, presented in Table 6, show a reliability of 0.778, with a mean score of 49.844 out of a possible score of 100. The range width is 81 (20 to 100) points. The standard deviation and standard error of measurement were 21.668 and 10.205, respectively. As compared to the pilot test results with THAI ST., the T.T.ED. group had much lower mean scores (T.T.ED. = 49.844 and THAI ST. = 74.054) and less reliability (T.T.ED. = 0.778 and THAI ST. = 0.803). Loftis (1972) claimed the reliability of the Professional Rating Scale = 0.91. Therefore, the test results show that the reliability of the T.T.ED. group is moderate. The mean score indicates that the T.T.ED. had low professional commitments by the PC scale. (Table 19, Appendix D, presents statistical information about PC items.)

Testing of Hypotheses

To test Hypotheses 1 through 4, the Pearson Product Moment Correlation Coefficient (PPMCR) was employed to analyze the relationships of ATT (PE-ATT, P-ATT, E-ATT), QLB, PC, and age. For Hypotheses 5 through 8, one-factor analyses of variance were computed,

Table 6

Statistical Summary Table of Professional Commitments Scale (PC)

PROFESSIONAL COMMITMENTS	ITEM	N	MEAN	STANDARD DEVIATION	RANGE*	STANDARD ERROR OF MEASUREMENT	KUDER-RICHARDSON RELIABILITY COEFFICIENTS
Pilot Test 1	-	-	-	-	-	-	-
Pilot Test 2	20	37	74.054	18.630	81(20-100)	8.263	0.803
Population	20	64	49.844	21.668	81(20-200)	10.205	0.778

*The possible range of scores is 0-100.
Pilot Test 1--not administered since the reliability was already available.
Pilot Test 2--administered to Thai graduate students of all majors at Penn State (THAI ST.) (Thai version).
Population--administered to Thai home economics teacher educators (T.T.ED.) (Thai version).

due to the small size of the population, to determine the significant differences among the mean scores. If the F-ratio was significant, then the Tukey Wholly Significant Differences Method (WSD) was used to make pairwise contrasts of the means.

Hypothesis 1

There will be no statistically significant relationship between scores on Attitudes Toward Population Education and Quality-of-Life Beliefs.

When the Pearson Product Moment Correlation Coefficient (PPMCR) was employed, the correlation between Population Education Attitudes (PE-ATT) and Quality-of-Life Beliefs (QLB) was 0.6219 (Table 7). The critical value at the .05 significance level was $\pm$0.250 and at the .01 level was $\pm$0.325 with 62 degrees of freedom (df = N-2). Thus, Hypothesis 1 was rejected at the .01 level of significance.

With the above procedure, the scores of these Population Attitudes (P-ATT) and Education Attitudes (E-ATT) were separately analyzed to determine the statistically significant relationships to Quality-of-Life Beliefs (QLB). Table 7 shows that both the P-ATT and QLB relationships (r = 0.5543), and the E-ATT and QLB relationship (r = 0.5456), are positively related at the .01 level of significance.

In summary, Hypothesis 1, including two subscales, was rejected at the .01 level of significance. There are positive relationships between PE-ATT, P-ATT, E-ATT, and QLB. This means that those Thai teacher educators who had high scores on attitudes toward population education also had high scores on population attitudes, education attitudes, and quality-of-life beliefs.

Table 7

PPMCR Analysis of the Correlation Coefficient of Scores on Attitudes Toward Population Education (ATT), Quality-of-Life Beliefs Scale (QLB), Professional Commitments Scale (PC) and Age (N=64)

VARIABLES	QLB SCORE	AGE SCORE	ATT PE-ATT SCORE	ATT P-ATT SCORE	ATT E-ATT SCORE	PC SCORE
Quality-of-Life Beliefs Score (QLB)						
Age Score	-0.0815					
Attitudes Toward Population Education Scale (ATT)						
--Population Education Attitudes Total Score (PE-ATT)	0.6219**	-0.1325				
--Population Attitudes Subscore (P-ATT)	0.5543**	-0.0837	0.9085**			
--Education Attitudes Subscore (E-ATT)	0.5456**	-0.1588	0.8559**	0.5614**		
Professional Commitment Score (PC)	0.6020**	0.0852	0.6806**	0.7049**	0.4755**	

** $p < .05$.

Hypothesis 2

There will be no statistically significant relationship between scores on Attitudes Toward Population Education and Professional Commitments.

The Pearson Product Moment correlation coefficient value of Population Education Attitudes (PE-ATT) and Professional Commitments (PC) was 0.6806, of Population Attitudes (P-ATT) and PC was 0.7049, and of Education Attitudes (E-ATT) and PC was 0.4755 (Table 7). Thus, Hypothesis 2, including two subscales, was rejected at the .01 level of significance. There were positive relationships between PE-ATT, P-ATT, E-ATT, and PC. This means that those Thai teacher educators who had high scores on attitudes toward population education also had high scores on population attitudes, education attitudes, and professional commitments.

Hypothesis 3

There will be no statistically significant relationship between scores on Quality-of-Life Beliefs and Professional Commitments.

The Pearson Product Moment correlation between QLB and PC was 0.6020 ($p<.01$) (Table 7). Thus, Hypothesis 3 was rejected at the .01 level of significance. This means that those Thai teacher educators who had high scores on quality-of-life beliefs also had high scores on professional commitments.

Hypothesis 4

There will be no statistically significant relationships between age and scores on Quality-of-Life Beliefs, Attitudes Toward Population Education, and Professional Commitments.

The Pearson Product Moment correlation coefficient value of Age and Population Education Attitudes (Age & PE-ATT) was -0.1325, of Age and Population Attitudes (Age & P-ATT) was -0.0837, of Age and Education Attitudes (Age & E-ATT) was -0.1588, of Age and Quality-of-Life Beliefs (Age & QLB) was -0.0815, and of Age and Professional Commitments (Age & PC) was +0.0852 (Table 7). Glass and Stanley's (1970, p. 536) significance value ($p<.01$) shows that no statistically significant relationships exist between age and any measure -- PE-ATT, P-ATT, E-ATT, QLB, and PC. This means that the age of those home economics teacher educators was not a factor in causing them to have quality-of-life beliefs, attitudes, or professional commitments that were systematicallly more or less positive.

Hypothesis 5

There will be no statistically significant differences among the mean scores of Thai home economics teacher educators with different amounts of workshop/seminar experience on Quality-of-Life Beliefs, Attitudes Toward Population Education, and Professional Commitments.

In order to make use of the response data on the experience in population-education/family-planning workshops and/or seminars, the following scoring scheme was devised. Respondents were awarded one point for every three-days-or-shorter workshop attended, two points for every one-week and more-than-three-days workshop attended, three points for every one-month and more-than-one-week workshop attended, and four

points for every workshop which lasted more than one month. Table 8 presents the results of this scoring.

Thai teacher educators were divided into three groups according to their scores on the number of workshops/seminars in which they reported participation, as follows: High-(n = 22), Medium-(n = 22), and Low-(n = 20) Experience Groups.

Of all scales and subscales -- PE-ATT, P-ATT, E-ATT, QLB, and PC -- the mean scores of these three groups with different seminar/workshop experience were computed to test the significant differences by one-way analysis of variance.

The findings in Table 9 rejected the hypothesis that no statistically significant differences existed in the Population Education Attitudes total score (PE-ATT) or Population Attitudes subscore (P-ATT) of the low-experience group in relation to population-education/family-planning experience in workshops/seminars. However, findings did support the hypothesis in that no difference existed in Quality-of-Life Beliefs (QLB), the Education Attitudes subscore (E-ATT), and the Professional Commitments score (PC) in relation to population-education/family-planning experience in workshops/seminars.

It is surprisingly evident that those with low experience achieved the highest mean scores on every measure (even though Table 10 showed the differences of mean scores occurred significantly only for the PE-ATT, and P-ATT).

Table 8

Results of Workshop/Seminar Scoring Method and the Selected Group Asssigned According to Low, Medium, and High Experiences

GROUP	MEAN	S.D.	RANGE	N	%
Low Workshop Scores	4.25	2.42	8(0-7)	20	31.25
Medium Workshop Scores	9.59	1.34	5(8-12)	22	34.38
High Workshop Scores	18.95	8.34	38(13-50)	22	34.38
Total Workshop Scores	11.10	7.86	51(0-50)	64	100.00

Table 9

ANOVA for the Effect of Population-Education/Family-Planning Experience on Beliefs, Attitudes, and Commitments of Thai Teacher Educators in Relation to Population Education

Dependent Variables	Low-experience group (scores 0 - 7) N=20		Med.-experience group (scores 8 - 12) N=22		High-experience group (scores 13 - 50) N=22		$F_{2,61}$	P
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.		
QLB	160.25	14.85	151.18	12.40	153.27	7.29	3.335	0.042*
PE-ATT	140.85	14.16	132.36	9.51	130.73	8.57	5.130	0.009**
P-ATT	66.75	8.23	61.27	5.82	60.59	6.31	5.058	0.009**
E-ATT	74.10	7.54	71.09	4.64	70.14	6.64	2.723	0.074
PC	54.50	25.80	50.00	21.21	45.45	18.38	0.896	0.413

* $p < .05$
** $p < .01$

Table 10

Summary of the Significant Pairwise Contrasts on Means After ANOVA for Hypotheses Five to Eight

Hypo.	Dependent Variables	Pairwise Contrasts t - t	Difference	Obtained ± Statistic	df	Critical Value of t	95% Confidence on Interval Lower Limit	95% Confidence on Interval Upper Limit
5	PE-ATT	Low exp. - High exp.	10.1200	3.004*	61	2.40	2.0237	18.2163
		Low exp. - Med. exp.	8.4900	2.520*	61	2.40	0.3937	16.5863
5	P-ATT	Low exp. - High exp.	6.1600	2.923*	61	2.40	1.0958	11.2243
		Low exp. - Med. exp.	5.4800	2.601*	61	2.40	0.4158	10.5443
7	QLB	FN - CDFR	13.4500	3.001*	57	2.95	0.2436	26.6564

* $p < .05$

Hypothesis 6

There will be no statistically significant differences among the mean scores of Thai home economics teacher educators with different family size on Quality-of-Life Beliefs, Attitudes Toward Population Education, and Professional Commitments.

Thai teacher educators were divided into four groups according to the number of children they had, as follows: no children (including those ten teacher educators who were single) (n = 11), one child (n = 13), two children (n = 24), and three or four children (n = 16). The scores on ATT, QLB, and PC were computed, and the findings in Table 11 supported the hypothesis that there were no statistically significant differences between the four groups on any measure. Therefore, Hypothesis 5 was retained. However, PE-ATT, P-ATT, and QLB mean scores decreased slightly as the number of children increased, although this decrease was not significant.

Hypothesis 7

There will be no statistically significant differences among the mean scores of Thai home economics teacher educators selected from specialized areas of Home Economics on Quality-of-Life Beliefs, Attitudes Toward Population Education, and Professional Commitments.

Thai teacher educators were divided into six groups according to their areas of specialization, as follows: CLTX (n = 8), FN (n = 15), HM & HD (n = 14), CDFR (n = 12), ART (n = 7), and HEED (n = 7). The scores on ATT, QLB, and PC were computed. Tables 10 and 12 show significant F values that only FN (Food and Nutrition Group) achieved significantly higher mean scores than the CDFR (Child Development and Family Relations) on the Quality-of-Life Beliefs measure. All other

Table 11

ANOVA for the Effect of Years of Family Size
on Beliefs, Attitudes, and Commitments of Thai Teacher Educators
in Relation to Population Education

Dependent Variables	No Children N=11		One Child N=13		Two Children N=24		Three & Four Children N=16		$F_{2,60}$	P
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.		
QLB	157.91	15.21	155.08	15.89	153.71	10.31	153.81	10.08	0.325	0.807
PE-ATT	137.0	13.30	135.92	14.21	134.25	11.72	131.81	7.79	0.513	0.675
P-ATT	65.36	9.28	64.38	9.40	62.63	6.23	59.81	4.04	1.623	0.193
E-ATT	71.64	4.78	71.54	6.59	71.63	6.58	72.00	5.25	0.018	0.997
PC	49.55	25.54	56.54	25.44	48.33	19.15	46.88	20.89	0.533	0.662

Table 12

ANOVA for the Effect of Specialized Area
on Beliefs, Attitudes, and Commitments of Thai Teacher Educators
in Relation to Population Education

Dependent Variable	CLTX N=8		FN N=15		HM & HD N=14		CDFR N=12		ART N=7		HEED N=7		$F_{5,57}$	P
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.		
QLB	149.50	8.04	162.53	15.72	153.71	7.68	149.08	9.29	158.71	14.86	153.71	10.63	2.457	0.044*
PE-ATT	135.88	9.03	141.73	11.89	130.79	5.26	129.75	9.68	135.00	10.48	131.57	9.18	2.117	0.076
P-ATT	63.88	7.62	67.13	9.17	59.86	2.93	59.42	6.95	63.57	7.74	62.43	5.19	2.298	0.057
E-ATT	72.00	2.78	74.60	9.13	70.93	3.87	70.33	5.23	71.43	3.51	69.14	5.14	1.188	0.326
PC	48.13	21.70	56.33	25.10	46.79	19.08	46.25	22.78	52.86	26.44	44.29	16.29	0.487	0.784

* $p < .05$

CLTX	Clothing and Textiles
FN	Food and Nutrition
HM & HD	Home Management and Housing
CDFR	Child Development and Family Relations
ART	Art and Flower Arrangement
HEED	Home Economics Education

measures supported the hypothesis that no significant differences existed in relation to specialized areas.

It is interesting that the Food and Nutrition Group achieved the highest mean scores in all measures, in contrast to the Child Development and Family Relations Groups whose mean scores were the lowest for almost every measure, except E-ATT and PC measures which had the second lowest scores.

Hypothesis 8

There will be no statistically significant differences among the mean scores of Thai home economics teacher educators with different numbers of years of teaching on Quality-of-Life Beliefs, Attitudes Toward Population Education, and Professional Commitments.

Thai teacher educators were divided into four groups according to years of teaching, as follows: 5 or fewer years (n = 7), 6 through 10 years (n = 27), 11 through 15 years (n = 19), and 16 or more years (n = 11). The scores on ATT, QLB, and PC were computed, and the findings in Table 13 supported Hypothesis 8. Even though the differences were not significant, the teacher educators with more (11 through 15) years of teaching experience had the lowest mean scores on every measure, and the group with the least (5 or less) years of teaching had the highest mean scores in almost all measures, except QLB and PC with the second-highest mean scores.

Summary

The findings of the eight hypotheses indicated that Thai home economics teacher educators who had more positive attitudes toward

Table 13

ANOVA for the Effect of Years of Teaching
on Beliefs, Attitudes, and Commitments of Thai Teacher Educators
in Relation to Population Education

Dependent Variables	5 or less years N=7		6-10 years N=27		11-15 years N=19		16 or more years N=11		$F_{2,60}$	P
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D	$\bar{X}$	S.D.		
QLB	155.29	15.45	156.67	13.98	151.95	10.41	154.45	8.69	0.546	0.653
PE-ATT	141.49	17.79	133.48	11.32	132.26	9.06	136.18	11.29	1.228	0.307
P-ATT	64.71	9.64	62.59	6.76	61.53	5.46	64.00	9.75	0.453	0.716
E-ATT	76.71	8.83	70.89	5.81	70.74	4.79	72.18	4.35	2.197	0.098
PC	51.43	22.31	47.41	20.21	45.26	19.11	62.73	27.33	1.738	0.169

population education, tended to have more positive quality-of-life beliefs and higher professional commitments, regardless of age. The previous population-education/family-planning experience in workshops/seminars did not seem to produce any changes in beliefs, attitudes, or commitments of those teacher educators. In fact, it appears that the teacher educators who attended fewer seminars/workshops had significantly more positive attitudes toward population education. It is also obvious that only the Food and Nutrition group had the most positive quality-of-life beliefs, while the Child Development and Home Decorating group had the least. Family size and years of teaching are not useful as predictors of quality-of-life beliefs, attitudes toward population education, and professional commitments.

CHAPTER 5

SUMMARY AND CONCLUSIONS

The primary purpose of this study was to investigate the relationships that exist among quality-of-life beliefs, attitudes toward population education, and professional commitments to population education of Thai home economics teacher educators. The secondary purpose was to determine if varying amounts of experience in population-education/family-planning workshops/seminars, family size, specialized area, years of teaching, and age resulted in any significant differences in the quality-of-life beliefs, attitudes, and professional commitments.

All home economics teacher educators (72) of seven teachers colleges in Bangkok-Dhonburi were surveyed by questionnaire. The questionnaire packet contained (1) a cover letter to teacher educators, (2) the researcher's Attitudes Toward Population Education Scale (ATT), (3) Wallace's Quality-of-Life Beliefs Scale (QLB), (4) the researcher's Professional Commitments Scale (PC), adapted from Loftis's Professional Rating Scale, and (5) Information Date (ID), respectively. Data were collected by the task force of this research study in Thailand. After requesting permission to do the research study, the teacher educators who were in service at the time of the data collection (June-early July, 1980) received the questionnaire packet in person. Individual teacher educators were allowed one week to complete the questionnaire. Follow-up was used, which finally resulted in 64 (88.89 percent) out of 72 questionnaires being usable for analysis.

Summary of Findings

Based upon the testing of the eight hypotheses of the study, the following is a summary of the major findings:

(1) There were highly positive relationships among attitudes toward population education, quality-of-life beliefs, and professional commitments of Thai home economics teacher educators of the Teacher Training Department, Ministry of Education, Thailand. This means that teacher educators who had more positive attitudes tended to have more positive quality-of-life beliefs and higher professional commitments (Hypotheses 1, 2, and 3).

(2) Workshops/seminars on population-education/family-planning that those teacher educators attended in the past for the purpose of integration of population education into existing home economics curricula were not effective in changing their beliefs, attitudes, and commitments to population education. Thai teacher educators who had more workshop experience did not seem to have more positive attitudes, more positive quality-of-life beliefs, or higher professional commitments, than those who had less workshop experience. Moreover, those groups who had less seminar experience appeared to have more positive attitudes toward population education, especially more positive attitudes toward population (Hypothesis 5).

(3) Teacher educators whose major interests were in the Food and Nutrition area had more positive quality-of-life beliefs than all others. However, those teacher educators who had their major interests in the child development and family relations had the lowest quality-of-life beliefs of all. On the other hand, those in all other

areas of interests did not differ in beliefs, attitudes, or commitments concerning population education (Hypothesis 7).

(4) Age, family size, and years of teaching had no influence on those teacher educators' attitudes toward population education, quality-of-life beliefs, and professional commitments (Hypotheses 4, 6, and 8).

Table 14 presents a more detailed report of specific findings.

Discussion and Conclusions

The Relationships of Quality-of-Life Beliefs, Attitudes Toward Population Education, and Professional Commitments

According to the literature review, human behavior is the most difficult of all intellectual activities to be predicted because it involves so many variables (Zimbardo et al., 1977). However, there are fundamental building blocks in human behavior. Many authors recognized the interrelationships among a person's beliefs, attitudes, behaviors, and commitments. Zimbardo et al. (1977) and Fishbein and Ajzen (1975) supported the idea that belief is the knowledge and information a person has about objects and situations which link to some attributes. Many beliefs will become a person's attitude; or in other words, attitude is an organization of beliefs (Rokeach, 1968). All beliefs and attitudes are preposition to actions, according to Rokeach. This is similar to the views of Fishbein and Ajzen (1975) and Krech et al. (1962), in that a person's behavior is a function of 'interaction of at least two attitudes. Furthermore, commitment heightens the probability and

Table 14

Summary of Findings

HYPOTHESES	QLB	ATT PE-ATT	ATT P-ATT	ATT E-ATT	PC
1. QLB		**	**	**	
2. PC		**	**	**	
3. PC	**				
4. Age	-	-	-	-	-
5. Population-education/ Family planning experience in workshops/ seminars:					
--Low-experience group	H	H*	H*	H	H
--Medium-experience group	L	-	-	-	-
--High-experience group	-	L	L	L	L
6. Family size	-	-	-	-	-
7. Specialized area					
--CLTX	-	-	-	-	-
--FN	H*	H	H	H	H
--HM & HD	-	-	-	-	-
--CDFR	L*	L	L	-	-
--ART	-	-	-	-	-
--HEED	-	-	-	L	L
8. Years of teaching	-	-	-	-	-

** $p < .01$
* $p < .05$
- Not significant differences
L Lowest mean scores
H Highest mean scores
CLTX Clothing and Textiles
FN Food and Nutrition
HM & HD Home Management & Housing
CDFR Child Development and Family Relations
ART Art and Flower Arrangement
HEED Home Economics Education

predictability of behavior (Abramson et al., 1958). Krathwohl et al. (1964) held that a person's commitment is based on his or her beliefs and attitudes; beliefs at the commitment level are beyond a stage of doubt. The above relationships could be confirmed by Fishbein and Ajzen (1975) and Bem (1970), who state that a person's overt behaviors may be used to infer a person's beliefs, attitudes, and behavioral intentions. Bem (1970) also held that a person's beliefs and attitudes have four foundations: thinking, feeling, believing, and interacting with others.

Furthermore, research in various areas of education also support these relationships. For example, George (1973) found that cognition, attitude, and commitment of professional staff members of six school districts were related. Meis (1967) concluded in her study that those home economics teachers who have an acceptable attitudinal commitment toward disadvantaged students will do whatever is called for in terms of teaching practices. Bengel (1968) studied the secondary teacher's attitudes toward research in relation to their degree of professional commitment. It appeared that professional commitment is a powerful variable for predicting teacher's attitudes toward research. Similarly, Huang's (1976) study found that attitude is a predictor of professional commitment.

Likewise, the relationships of quality-of-life beliefs, attitudes toward population, and professional commitments should be considered. The increasing role of population growth is adversely affecting the quality of life for all individuals of the world. Burleson (1969), Stockale (1972), and Harland (1972) agreed that a person's quality of life is not only the function of material well-being, but also the

precious intangibles that make life worth living, maximize human potential, influence interpersonal relationships, and provide healthy family functioning. Four general areas -- economic, social, environmental, and psychological -- seem to be perceived as an index for quality of life (EPA, 1972; Kimball, 1973; Midwest Research Institute, 1973; Maslow, 1970). According to UNESCO (1975a), Asian people believe that the quality of life includes adequate food, housing, and health facilities; good education, good job opportunities and good income; and a pleasant environment. One effective and possible way to cope with such quality-of-life beliefs, would be through population education. Population education aims to equip individuals with the realization of population situations and the availability of human and nonhuman resources at both micro- and macro-levels, as related to the quality of human life for both self and others. This is by way of an effective educational process, so that responsible attitudes as well as the decision-making based on facts may result in influencing the behavioral commitments of individuals to decrease population problems. Therefore, it is to be expected that there is a relationship in teacher educators' behavior such that those who have positive quality-of-life beliefs would have related positive attitudes and professional commitments to population education. So far, there has been no specific investigation of the relationships of quality-of-life beliefs, attitudes toward population education, and professional commitments, based on the literature review

However, this research study found positive significant relationships ($p<.01$) among the quality-of-life beliefs, attitudes and

commitments to population education of Thai home economics teacher educators. Therefore, such results suggest to policy makers and organizers that the staff development program for teacher educators in infusing population education into the existing home economics curricula should be designed to make use of the influential relationships of beliefs, attitudes, and commitments.

Demographic Characteristics

Various demographic variables have been investigated as predictors of quality-of-life beliefs, attitudes, and professional commitments; however, some studies confirmed these relationships, while others did not. The results of the previous studies have been inconsistent which indicated that further research is needed. This research study looked into the following demographic characteristics -- experiences in population-education/family-planning seminars/workshops, family size, specialized area, years of teaching, including age. The most significant related factors were seminar/workshop experience on population-education/family-planning and specialized area of professional responsibility.

It is surprising that the function of more in-service training experience does not improve the teacher educators' quality-of-life beliefs, attitudes toward population education, and professional commitments. Moreover, negative relationships among the low-, medium-, and high-experience groups for workshops/seminars of teacher educators, in relation to quality-of-life beliefs, attitudes, and professional commitments, were shown. That is, the results of this research study

showed that the low-experience group had the highest mean scores in all measures, while the high-experience groups tended to have the lowest mean scores.

The demographic data from this research study indicated that almost all respondents (n = 61, 95.31 percent) attended such seminars for varying lengths of time. It seems reasonable to assume that those teacher educators should be well-prepared for population education infusion, with the most positive attitudes toward population education, more positive quality-of-life beliefs, and higher professional commitments to population education. However, the findings did not seem to support this assumption. Therefore, the question is why those experiences did not result in changes and formation of more positive beliefs, attitudes, and commitments.

According to the researcher's experiences, workshops/seminars in population-education/family-planning for home economics teacher educators in the Teacher Training Department were periodically offered without any long-range planning. Therefore, the seminar may not be offered at an appropriate time for some of the teacher educators. Also, some of the participants may not be interested and some may not have enough background for the specific purpose for which they were sent to the seminars. Thus, teaching time was sometimes spent without a great return of benefits. Furthermore, the seminars/workshops experiences on population-education/family-planning usually contain participants with various backgrounds, since the seminars/workshops cover many major and teaching roles. Without purposeful, long-range planning, and without determining the participants' backgrounds, the results of the workshops/seminars will not be successful.

In conclusion, the weakness may be linked to two basic problems: (1) there is no long-range plan specifically for the home economics teacher educators in the Teacher Training Department; (2) the background of the participants are not similar enough, in terms of subject matter and role, to create a positive learning environment. Therefore, the seminar cannot be presented in enough depth to cause the desired changes in beliefs, attitudes, and commitments of those teacher educators. Presently, it seems that a level of awareness is all that results, which is not sufficient for these teacher educators who have the responsibility for training future elementary and secondary home economics teachers for the country.

Concerning area of specialization, the results of the study indicated that specialization in Food and Nutrition had the highest significant difference, while the Child Development area had the lowest significant difference. This may be because: (1) the food and nutrition area has been the strongest, oldest, well-established program in Thailand, while the Child Development area is relatively new to their interests; (2) there are many specialized institutions and programs to train Nutrition teacher educators with supported research, but none as such is specific to train home economists in Child Development area; (3) furthermore, the real situation in Thailand -- the deficiency of food and nutrition evidence, especially in the rural area -- has been explicitly shown and called for various supports of various organizations for quite a period of time.

Even though there was no sign in any of the measures which could be related to family size, it is interesting to review why family size did

not show any significant differences in the Quality-of-Life Beliefs score. This may be due to the fact that all teacher educators in home economics were already be concerned about quality of life. In addition, almost all had small families by Thai standards, that is, 75 percent (n = 48) had none or two children, 12 (18.75 percent) had three children, and only four (6.25 percent) had four children. Besides, their socioeconomic status, including environmental and psychological aspects, may make it possible for them to afford such families while maintaining a good, personal quality of life. Another explanatory factor may be that most of these respondents were relatively young women who may not have reached their completed family size.

Implications and Recommendations

The major findings of this study indicate that there are positive relationships among quality-of-life beliefs, attitudes toward population education, and professional commitments. In addition, the effect of population-education/family-planning in-service training projects attempting to educate Thai home economics teacher educators have had a negative effect upon quality-of-life beliefs, attitudes, and commitments in population education. The recommendations for future changes are as follows:

1. The objectives for such future educational opportunities should make use of the knowledge of the relationships of those major variables to establish a more effective education approach.
2. A purposeful, long-range, in-depth, in-service training project specifically for Thai teacher educators of home economics in

the Teacher Training Department, Ministry of Education, Thailand, should be developed.

3. While the in-service training project for Thai home economics teacher educators is in operation, research should be conducted to determine efficient and effective strategies and content to bring about more positive quality-of-life beliefs and attitudes toward population education as well as the highest level of professional commitments.
4. Concurrent with the above in-service training and research efforts, there should be cooperative development of Thai textbooks, lesson plans, materials, teaching aids, and evaluation measurements that infuse population education into the existing home economics curricula for the teacher educators and for secondary and elementary teachers.
5. A similar study could be done with other home economics teacher educators with similar roles in other countries as well as with other departments or other professional groups within Thailand for purposes of comparison.

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SEAPRAP

THE SOUTHEAST ASIA POPULATION RESEARCH AWARDS PROGRAM

PROGRAM OBJECTIVES

* To strengthen the research capabilities of young Southeast Asian social scientists, and to provide them with technical support and guidance if required.

* To increase the quantity and quality of social science research on population problems in Southeast Asia.

* To facilitate the flow of information about population research developed in the program as well as its implications for policy and planning among researchers in the region, and between researchers, government planners and policy makers.

ILLUSTRATIVE RESEARCH AREAS

The range of the research areas include a wide variety of research problems relating to population, but excludes reproductive biology. The following are some examples of research areas that could fall within the general focus of the Program:

* Factors contributing to or related to fertility regulation and family planning programs; familial, psychological, social, political and economic effects of family planning and contraception.

* Antecedents, processes, and consequences (demographic, cultural, social, psychological, political, economic) of population structure, distribution, growth and change.

* Family structure, sexual behaviour and the relationship between child-bearing patterns and child development.

* Inter-relations between population variables and the process of social and economic development (housing, education, health, quality of the environment, etc).

* Population policy, including the interaction of population variables and economic policies, policy implications of population distribution and movement with reference to both urban and rural settings, and the interaction of population variables and law.

* Evaluation of on-going population education programs and/or development of knowledge-based population education program.

* Incentive schemes — infrastructures, opportunitie overall economic and social development progran

SELECTION CRITERIA

Selection will be made by a Program Committee distinguished Southeast Asian scholars in the soc sciences and population. The following factors v be considered in evaluating research proposals:

1. relevance of the proposed research to curre issues of population in the particular countries Southeast Asia;
2. its potential contribution to policy formation, pl gram implementation, and problem solving;
3. adequacy of research design, including probl definition, method of procedure, proposed mc of analysis, and knowledge of literature;
4. feasibility of the project, including time requi ment; budget; and availability, accessibility, a reliability of data;
5. Applicant's potential for further development.

DURATION AND AMOUNT OF AWARDS

Research awards will be made for a period of up one year. In exceptional cases, requests for limi extension may be considered. The amount of award will depend on location, type and size of project, but the maximum should not exce US$7,500.

QUALIFICATIONS OF APPLICANTS

The Program is open to nationals of the follow countries: Burma, Indonesia, Kampuchea, La Malaysia, Philippines, Singapore, Thailand and Vi nam. Particular emphasis will be placed on attracti young social scientists in provincial areas.

Applications are invited from the following:

* Graduate students in thesis programs

* Faculty members

* Staff members in appropriate governmental a other organizations.

Full-time commitment is preferable but applica must at least be able to devote a substantial part their time to the research project. Advisers may provided, depending on the needs of applicants.